



DEPARTMENT OF
ECOLOGY
State of Washington

☒ Check this box if you have attached any documents to this form (using the paperclip icon on the left).

ERTS #(s):
Parcel # (s):
County:
FSID #:
CSID #:
UST #:

717403
6133401
Cowlitz
11758
17041

SITE INFORMATION

<u>Site Name (Name over door):</u> Kalama Export Company	<u>Site Address (including City, State, and Zip):</u> 2211 Hendrickson Dr, Kalama, WA 98625	<u>Phone</u> 360.673.3900 <u>Email</u> Click to enter text.
<u>Site Contact, Title, Business:</u> Rick Rodriguez, Department Manager, Environmental Services, Terracon	<u>Site Contact Address (including City, State, and Zip):</u> 700 NE 55th Ave, Portland, OR 97213	<u>Phone</u> Desk: 503.742.7173 Cell: 206.380.3491 <u>Email</u> Rick.Rodriguez2@terracon.com
<u>Site Owner, Title Business:</u> Kalama Export Company LLC	<u>Site Owner Address (including City, State, and Zip):</u> C/O Pacificorp – Sean Tingey, 1300 SW 5th Ave Ste 2705, Portland, OR 97201-5634	<u>Phone</u> Click to enter text. <u>Email</u> Click to enter text.
<u>Site Owner Contact, Title, Business:</u> Mike Leeper, Kalama Export Company	<u>Site Owner Contact Address (Including City, State and Zip):</u> 2211 Hendrickson Dr, Kalama, WA 98625	<u>Phone</u> Click to enter text. <u>Email</u> mike.leeper@kalamaexport.com
<u>Previous Site Owner(s):</u> Conagra Foods Inc.	<u>Additional Info (for any Site Information Item):</u> Click to enter text.	
<u>Alternate Site Name(s):</u> Click to enter text.		

Latitude (Decimal Degrees): 46.028329	Longitude (Decimal Degrees): -122.86457
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INSPECTION INFORMATION

☐ Please check this box if there is relevant inspection information, such as data or photos, in an existing site report for this site.

Inspection Conducted? Yes ☐ No ☒	Date/Time: Click to enter text.	Entry Notice: Announced ☐ Unannounced ☐
Photographs taken? Yes ☐ No ☒	Note: Attach photographs or upload to PIMS	
Samples Collected? Yes ☐ No ☒	Note: Attach record with media, location, depth, etc.	

RECOMMENDATION

No Further Action (Check appropriate box below):	LIST on Confirmed and Suspected Contaminated Sites List: ☒
Release or threatened release does not pose a threat ☐	
No release or threatened release ☐	
Refer to program/agency (Name: Click to enter text.) ☐	
Independent Cleanup Action Completed (contamination removed) ☐	

COMPLAINT (Brief Summary of ERTS Complaint):

Release of 10,000 gallons of mineral oil resulting of overflow during loading into Site catch basins.

CURRENT SITE STATUS (Brief Summary of why Site is recommended for Listing or NFA):

Laboratory confirmed exceedance of the MTCA Method A CUL for mineral oil after initial cleanup efforts.

Investigator: Aaren Fiedler	Date Submitted: 12/1/2022
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OBSERVATIONS ☐ Please check this box if you included information on the Supplemental Page at end of report.

Description (If site visit made, please be sure to include the following: site observations, site features and cover, chronology of events, sources/past practices likely responsible for contamination, presence of water supply wells and other potential exposure pathways, etc):

On September 2, 2022, approximately 7,000 to 10,000 gallons of white mineral oil (non-PCB) was spilled by overfilling an aboveground storage tank (AST) from a railcar. White mineral oil affected the immediate vicinity as well as two stormwater catch basins and conveyance lines with an oil-water separator. The system discharges into a seasonally wet/dry retention pond. The affected areas are indicated on Terracon's map attached to this report.

Kalama Export performed vacuum extraction with a vacuum truck on September 2, 2022, that removed standing white mineral oil from the ground surface in the areas labeled Area 1 and Area 2 on Terracon's map. Mineral oil was also removed from the conveyance system and oil-water separator.

Terracon collected soil samples on September 6, 2022 showing total TPH concentrations ranging from 12 mg/kg to 34,120 mg/kg. Terracon's summary table and laboratory analytical report are attached. Excavations were completed in areas where results indicated a TPH concentration in excess of the MTCA Method A CUL of 4,000 mg/kg for mineral oil.

Terracon completed post excavation confirmation soil sampling on September 21, 2022. Results indicated that mineral oil in soil still exceeded the MTCA Method A CUL. Results ranged from 3.83 mg/kg to 36,320 mg/kg.

Terracon proposed using the MTCA Method B soil CUL for white mineral oil (CAS# 8012-95-1) listed in Cleanup Levels and Risk Calculation (CLARC) Tables and supplied their Material Safety Data Sheet (MSDS) for the product release, 70 NF White Mineral Oil (CAS# 8042-47-5). I conferred with Ecology toxicologist Andrew Kallus on this methodology. Because that CUL only accounts for the ingestion pathway and not dermal and groundwater, is not appropriate. Additionally, according to Andrew Kallus, that listing for while mineral oil is being removed from the CLARC tables. The email response from Andrew Kallus is attached.

If Kalama Export and Terracon would still like to peruse a Method B cleanup, or a Method C cleanup a Site specific CUL will need to be calculated. This should be done under the guidance of an Ecology cleanup Site Manager.

Because the Site still has exceedances for the MTCA Method A soil CUL for mineral oil, I have determined it should be listed on the Confirmed and Suspected Contaminated Sites List (CSCSL).

Documents reviewed:

Email correspondence with Rick J. Rodriguez, Terracon, Describing the activities performed at the Site and including the summery tables and Site map.

Email correspondence with Andy Kallus, Ecology Toxicologist, Regarding the validity of using the MTCA Method B CUL for "white mineral oil" included in Cleanup Levels and Risk Calculation (CLARC) Tables.

PM Group International, Inc. (PMGI), Safety Data Sheet for 70 NF White Mineral Oil. Supplied by Rick J. Rodriguez via email on November 1, 2022.

CONTAMINANT GROUP	CONTAMINANT	SOIL	GROUNDWATER	SURFACE WATER	AIR	SEDIMENT	DESCRIPTION
Non-Halogenated Organics	Phenolic Compounds	Select	Select	Select		Select	Compounds containing phenols (Examples: phenol; 4-methylphenol; 2-methylphenol)
	Non-Halogenated Solvents	Select	Select	Select	Select	Select	Organic solvents, typically volatile or semi-volatile, not containing any halogens. To determine if a product has halogens, search HSDB (http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB) and look at the Chemical/Physical Properties, and Molecular Formula. If there is not a Cl, I, Br, F in the formula, it's not halogenated. (Examples: acetone, benzene, toluene, xylenes, methyl ethyl ketone, ethyl acetate, methanol, ethanol, isopropanol, formic acid, acetic acid, stoddard solvent, Naptha). <i>Use this when TEX contaminants are present independently of gasoline.</i>
	Polynuclear Aromatic Hydrocarbons (PAH)	Select	Select	Select	Select	Select	Hydrocarbons composed of two or more benzene rings.
	Tributyltin	Select	Select	Select		Select	The main active ingredients in biocides used to control a broad spectrum of organisms. Found in antifouling marine paint, antifungal action in textiles and industrial water systems. (Examples: Tributyltin; monobutyltin; dibutyltin)
	Methyl tertiary-butyl ether	Select	Select	Select	Select	Select	MTBE is a volatile oxygen-containing organic compound that was formerly used as a gasoline additive to promote complete combustion and help reduce air pollution.
	Benzene	Select	Select	Select	Select	Select	Benzene
	Other Non-Halogenated Organics	Select	Select	Select	Select	Select	TEX
	Petroleum Diesel	Select	Select	Select		Select	Petroleum Diesel
	Petroleum Gasoline	Select	Select	Select	Select	Select	Petroleum Gasoline
	Petroleum Other	C	Select	Select		Select	Oil-range organics
Halogenated Organics (see notes at bottom)	PBDE	Select	Select	Select	Select	Select	Polybrominated di-phenyl ether
	Other Halogenated Organics	Select	Select	Select	Select	Select	Other organic compounds with halogens (chlorine, fluorine, bromine, iodine). search HSDB (http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB) and look at the Chemical/Physical Properties, and Molecular Formula. If there is a Cl, I, Br, F in the formula, it is halogenated. (Examples: Hexachlorobutadiene; hexachlorobenzene; pentachlorophenol)
	Halogenated solvents	Select	Select	Select	Select	Select	PCE, chloroform, EDB, EDC, MTBE
	Polychlorinated Biphenyls (PCB)	Select	Select	Select	Select	Select	Any of a family of industrial compounds produced by chlorination of biphenyl, noted primarily as an environmental pollutant that accumulates in animal tissue with resultant pathogenic and teratogenic effects
	Dioxin/dibenzofuran compounds (see notes at bottom)	Select	Select	Select	Select	Select	A family of more than 70 compounds of chlorinated dioxins or furans. (Examples: Dioxin; Furan; Dioxin TEQ; PCDD; PCDF; TCDD; TCDF; OCDD; OCDF). <i>Do not use for 'dibenzofuran', which is a non-chlorinated compound that is detected using the semivolatile organics analysis 8270</i>
Metals	Metals – Other	Select	Select	Select		Select	Cr, Se, Ag, Ba, Cd
	Lead	Select	Select	Select		Select	Lead
	Mercury	Select	Select	Select	Select	Select	Mercury
	Arsenic	Select	Select	Select		Select	Arsenic
Pesticides	Non-halogenated pesticides	Select	Select	Select	Select	Select	Pesticides without halogens (Examples: parathion, malathion, diazinon, phosmet, carbaryl (sevin), fenoxycarb, aldicarb)
	Halogenated pesticides	Select	Select	Select	Select	Select	Pesticides with halogens (Examples: DDT; DDE; Chlordane; Heptachlor; alpha-beta and delta BHC; Aldrin; Endosulfan, dieldrin, endrin)

CONTAMINANT GROUP	CONTAMINANT	SOIL	GROUNDWATER	SURFACE WATER	AIR	SEDIMENT	DESCRIPTION
Other Contaminants	Radioactive Wastes	Select	Select	Select	Select	Select	Wastes that emit more than background levels of radiation.
	Conventional Contaminants, Organic	Select	Select	Select		Select	Unspecified organic matter that imposes an oxygen demand during its decomposition (Example: Total Organic Carbon)
	Conventional Contaminants, Inorganic	Select	Select	Select	Select	Select	Non-metallic inorganic substances or indicator parameters that may indicate the existence of contamination if present at unusual levels (Examples: Sulfides, ammonia)
	Asbestos	Select	Select	Select	Select	Select	All forms of Asbestos. Asbestos fibers have been used in products such as building materials, friction products and heat-resistant materials.
	Other Deleterious Substances	Select	Select	Select		Select	Other contaminants or substances that cause subtle or unexpected harm to sediments (Examples: Wood debris; garbage (e.g., dumped in sediments))
	Benthic Failures	Select	Select	Select		Select	Failures of the benthic analysis standards from the Sediment Management Standards.
	Bioassay Failures	Select	Select	Select		Select	For sediments, a failure to meet bioassay criteria from the Sediment Management Standards. For soils, a failure to meet TEE bioassay criteria for plant, animal or soil biota toxicity.
Reactive Wastes	Unexploded Ordnance	Select	Select	Select	Select	Select	Weapons that failed to detonate or discarded shells containing volatile material.
	Other Reactive Wastes	Select	Select	Select	Select	Select	Other Reactive Wastes (Examples: phosphorous, lithium metal, sodium metal)
	Corrosive Wastes	Select	Select	Select	Select	Select	Corrosive wastes are acidic or alkaline (basic) wastes that can readily corrode or dissolve materials they come into contact with. Wastes that are highly corrosive as defined by the Dangerous Waste Regulation (WAC 173-303-090(6)). (Examples: Hydrochloric acid; sulfuric acid; caustic soda)

(fill in contaminant matrix above with appropriate status choice from the key below the table)

Status choices for contaminants	
Contaminant Status	Definition
B— Below Cleanup Levels (Confirmed)	The contaminant was tested and found to be below cleanup levels. (Generally, we would not enter each and every contaminant that was tested; for example if an SVOC analysis was done we would not enter each SVOC with a status of "below". We would use this for contaminants that were believed likely to be present but were found to be below standards when tested)
S— Suspected	The contaminant is suspected to be present; based on some knowledge about the history of the site, knowledge of regional contaminants, or based on other contaminants known to be present
C— Confirmed Above Cleanup Levels	The contaminant is confirmed to be present above any cleanup level. For example—above MTCA method A, B, or C; above Sediment Quality Standards; or above a presumed site-specific cleanup level (such as human health criteria for a sediment contaminant).
RA— Remediated - Above	The contaminant was remediated, but remains on site above the cleanup standards (for example—capped area).
RB— Remediated - Below	The contaminant was remediated, and no area of the site contains this contaminant above cleanup standards (for example—complete removal of contaminated soils).

Halogenated chemicals and solvents: Any chemical compound with chloro, bromo, iodo or fluoro is halogenated; those with eight or fewer carbons are generally solvents (e.g. halogenated methane, ethane, propane, butane, pentane, hexane, heptane or octane) and may also be used for or registered as pesticides or fumigants. Most are dangerous wastes, either listed or categorical. Organic compounds with more carbons are almost always halogenated pesticides or a contaminant or derivative. Referral to the HSDB is recommended if you are unfamiliar with a chemical name or compound, as it contains useful information about synonyms, uses, trade names, waste codes, and other regulatory information about most toxic or potentially toxic chemicals.

Dibenzodioxins and dibenzofurans are normalized to a combined equivalent toxicity based on 2,3,7,8-tetrachloro-p-dibenzodioxin as set out in WAC 173-340-708(8)(d) and in the Evaluating the Toxicity and Assessing the Carcinogenic Risk of Environmental Mixtures using Toxicity Equivalency Factors Focus Sheet (<https://fortress.wa.gov/ecy/clarc/FocusSheets/tef.pdf>). Results may be reported as individual compounds and isomers (usually lab results), or as a toxic equivalency value (reports).

FOR ECOLOGY II REVIEWER USE ONLY (For Listing Sites):

How did the Site come to be known ☐ Site Discovery (received a report) Date (Date Report Received)
☒ ERTS Complaint
☐ Other (please explain): [Click to enter text.](#)

Does an Early Notice Letter need to be sent: ☒ Yes ☐ No
If No, please explain why: [Click to enter text.](#)

NAICS Code (if known): [Click to enter text.](#)

Otherwise, briefly explain how property is/was used (i.e., gas station, dry cleaner, paint shop, vacant land, etc.):
Export Terminal located at the Port of Kalama

Site Unit(s) to be created (Unit Type): ☒ Upland (includes VCP & LUST) ☒ Sediment

If multiple Unites needed, please explain why: Site is located in a designated wetland and the stormwater ponds empty into a seasonally wet/dry retention pond

Cleanup Process Type (for the Unit): ☒ No Process ☐ Independent Action
☐ Voluntary Cleanup Program ☐ Ecology-supervised or conducted
☐ Federal-supervised or conducted

Site Status: ☒ Awaiting Cleanup ☐ Construction Complete – Performance Monitoring **Model Remedy Used?** ☐
☐ Cleanup Started ☐ Cleanup Complete – Active O&M/Monitoring **If yes, was this a**
☐ No Further Action Required **transformer spill?** ☐

Site Manager (Default [Click to enter text.](#)) [Click to enter text.](#)

Specific confirmed contaminants include:

White Mineral Oil in Soil

[Click to enter text.](#) in Groundwater

[Click to enter text.](#) in Other (specify matrix: [Choose an item.](#)

Facility/Site ID No. (if known):

[Click to enter text.](#)

Cleanup Site ID No. (if known):

[Click to enter text.](#)

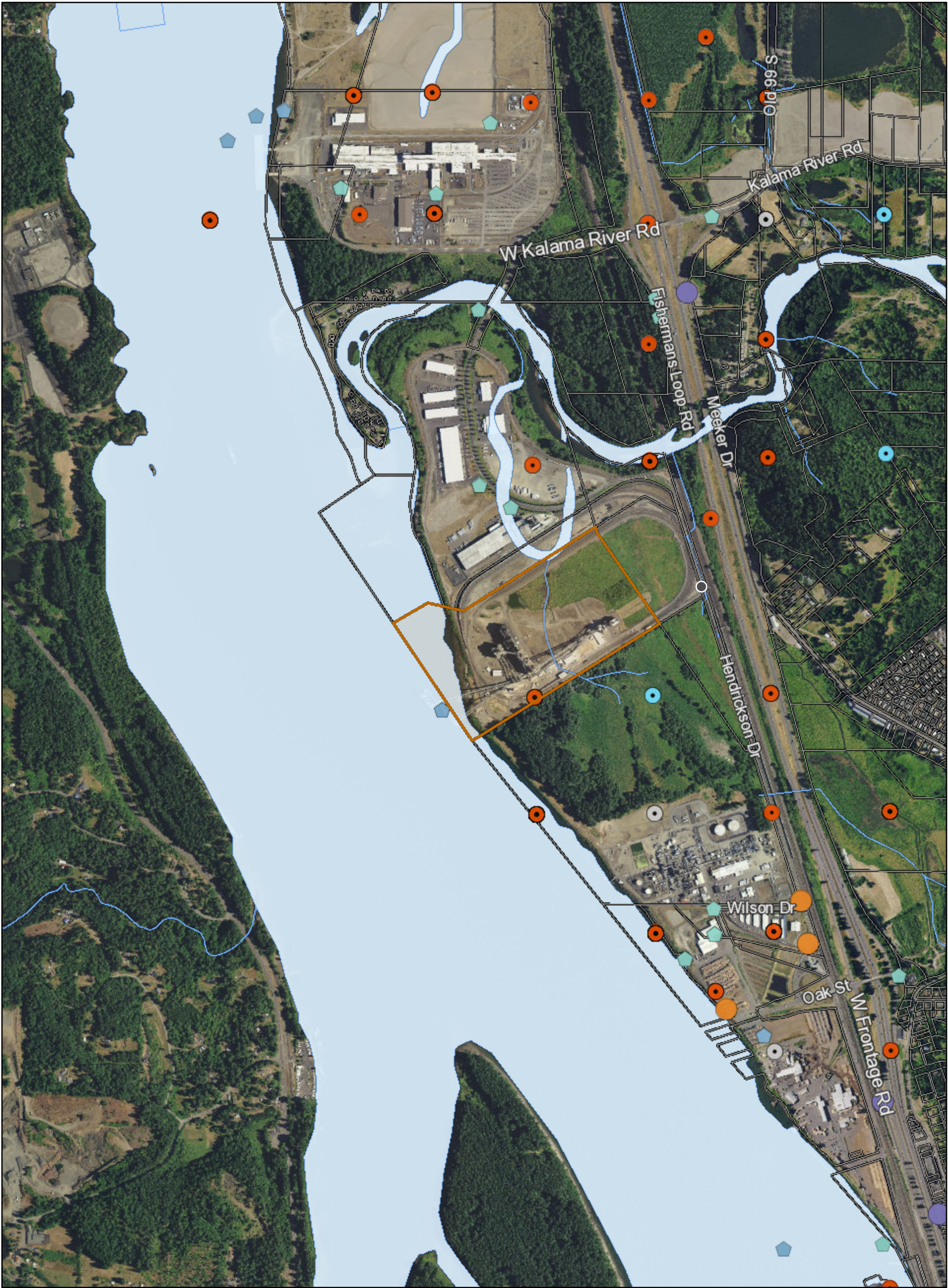
COUNTY ASSESSOR INFO: Please attach to this report a copy of the tax parcel/ownership information for each parcel associated with the site, as well as a parcel map illustrating the parcel boundary and location.

Additional or Supplemental Information for Observations Page

Please use this box for any text that requires special formatting

Click to enter text.

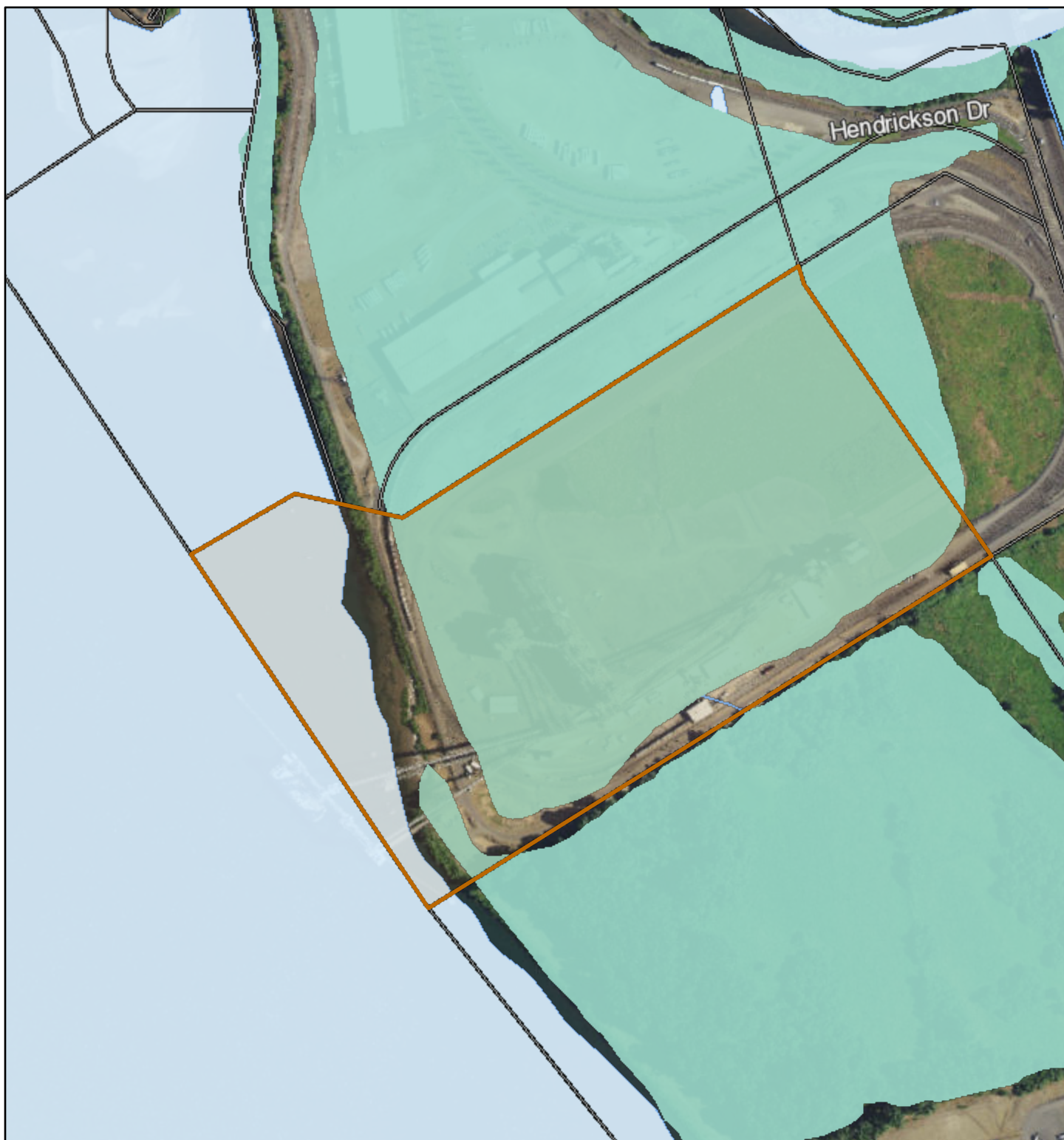
Ecology Figure 1: Release Location with Parcels



November 30, 2022

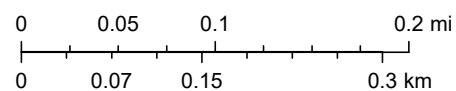
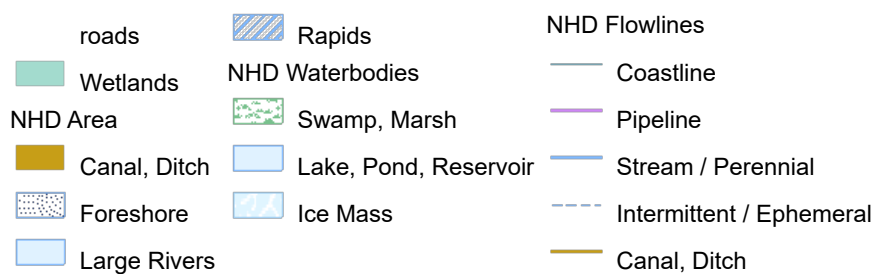
- | | | | |
|---|---|--|--|
| TCP Cleanupsites 1 | Resource Protection Well | NHD Area | NHD Flowlines |
| ● Awaiting Cleanup | ● Decommissioned Well | Canal, Ditch | — Ice Mass |
| ● Cleanup Started | ● HAZWASTE | Foreshore | — Coastline |
| ● Complete | ● INDUSTRIAL | Large Rivers | — Pipeline |
| ● Monitoring | ● SPILLS | Rapids | — Stream / Perennial |
| WellReports | ● W2R | NHD Waterbodies | - - - Intermittent / Ephemeral |
| ● Water Well | roads | Swamp, Marsh | — Canal, Ditch |
| | | Lake, Pond, Reservoir | |

Ecology Figure 2: Release Location with Wetlands



November 30, 2022

1:9,028





Cowlitz County Property Information

Property ID: 3044868

Parcel: 6133401

Site Address: 2211 N HENDRICKSON DR

Owner Information

Owner: KALAMA EXPORT COMPANY LLC
Mailing Address: C/O PACIFICORP - SEAN TINGEY
1300 SW 5TH AVE STE 2705
PORTLAND, OR 97201-5634

General Property Info

Jurisdiction: COWLITZ
Acres: 80.2400
Curr Assmt Yr: 2021
Abbr Prop Ref: 706 (SMITH HENSIL DLC) 6 -6N -1W T-3B,25A-1
TIDELANDS.
Sect/Township/Range: 6-6N-1W
Property Use: GRAIN ELEVATORS
Neighborhood: KALAMA RIVER RD
Tax Code Area: 765

Photos



Current Assessed Values For 2021

Land Value: \$7,545,460
Improvement Value: \$93,807,260
Current Use: \$0
Total Assessed Value: \$101,352,720

Current Taxes For 2022 Payable Year

Taxes: \$1,022,964.27
Assessments: \$36.09
Total Charges: \$1,023,000.36
First Half: \$0.00
Second Half: \$0.00
Total Paid: \$1,023,000.36
Total Due: \$0.00



Cowlitz County Property Information

Property ID: 3044868

Parcel: 6133401

Site Address: 2211 N HENDRICKSON DR

Property Details

Year Built - INDUSTRIAL

Area (SQFT) - INDUSTRIAL UNIT

206,100

Table 1
Summary of Soil Analytical Results
Confirmation Samples - Area 1
Kalama Spill
2211 Hendrickson Drive, Kalama Washington
Terracon Project No. 82227198

All analytical results are reported in milligrams per kilogram (mg/kg)

Sample ID	Sample Date	Sample Depth (feet)	TPH		
			DRO	HO	Total TPH
SS-1	9/6/2022	1	2,930	975	3,905
SS-2	9/6/2022	1	22,200	7,220	29,420
SS-2-A	9/21/2022	1	14,700	4,120	18,820
SS-3	9/6/2022	1	25,800	8,320	34,120
SS-3-A	9/21/2022	1	20,900	6,150	27,050
SS-4	9/6/2022	1	13,500	4,330	17,830
SS-4-A	9/21/2022	1	1,840	497	2,337
SS-5	9/6/2022	1	3,590	1,150	4,740
SS-6	9/6/2022	1	14,500	4,310	18,810
SS-6-A	9/21/2022	1	310 V	81	81
SS-29	9/6/2022	1	21,500	6,260	27,760
SS-29-A	9/21/2022	1	21,300	7,370	28,670
SS-30	9/6/2022	1	19,700	7,610	27,310
SS-30-A	9/21/2022	1	8.13	4.56 J	8
SS-31	9/21/2022	1	17.30	5.88 J	17
SS-32	9/21/2022	1	3.83 J	< 3.49	0
SS-33	9/21/2022	1	1,000	279	1,279
SS-34	9/21/2022	1	51.80	15	67
SS-35	9/21/2022	1	27,700	8,620	36,320
SS-36	9/21/2022	1	2,130	675	2,805
SS-37	9/21/2022	1	2,970	950	3,920
SS-38	9/21/2022	1	2,690	843	3,533
SS-39	9/21/2022	1	4,620	1,460	6,080
SS-40	9/21/2022	1	10.60	10.1 J	11
SS-41	9/21/2022	1	231	73.4	304
SS-42	9/21/2022	1	600	198	798
SS-43	9/21/2022	1	78.1	44.7	123
SS-44	9/21/2022	1	5.80	6.07 J	6
SS-45	9/21/2022	1	8.77	20.2	29
SS-46	9/21/2022	1	54.1	17.6	72
MTCA Method B Cleanup Level ¹ (White Mineral Oil)					240,000

Notes :
¹ Method B direct contact non-cancer cleanup level
MTCA = Model Toxics Control Act
Color highlighted cells indicate reported concentration exceeds corresponding MTCA Cleanup Level.
A full list of analytes is included in the laboratory analytical report.
TPH = Total Petroleum Hydrocarbons
DRO = TPH in the Diesel Range Organics
HO = TPH in the Heavy-Oil Range Organics
Bold = Detected in Sample
Italic = Removed via remedial over-excavation
< = Not detected above laboratory reporting limit
J = The associated batch QC was outside the established quality control range for precision
V = The sample concentration is too high to evaluate accurate spike recoveries

Table 2
Summary of Soil Analytical Results
Confirmation Samples - Area 2
Kalama Spill
2211 Hendrickson Drive, Kalama Washington
Terracon Project No. 82227198

All analytical results are reported in milligrams per kilogram (mg/kg)

Sample ID	Sample Date	Sample Depth (feet)	TPH		
			DRO	HO	Total TPH
SS-7	9/6/2022	1	4,650	1,820	6,470
SS-8	9/6/2022	1	NA	NA	0
SS-9	9/6/2022	1	117	37.3	154
SS-10	9/6/2022	1	NA	NA	0
SS-11	9/6/2022	1	32.3	<13.3	32
SS-12	9/6/2022	1	NA	NA	0
SS-13	9/6/2022	1	13,000	6,090	19,090
SS-13-A	9/21/2022	1	481	150	631
SS-14	9/6/2022	1	140	50	190
SS-15	9/6/2022	1	568	381	949
SS-16	9/6/2022	1	14.3	<14.6	14.3
SS-17	9/6/2022	1	826	294	1,120
SS-18	9/6/2022	1	4,280	1,510	5,790
SS-18-A	9/21/2022	1	54.5	113	168
SS-19	9/6/2022	1	204	74.6	279
SS-20	9/6/2022	1	11,800	3,780	15,580
SS-20-A	9/21/2022	1	9.79	6.56 J	10
SS-21	9/6/2022	1	12.1	<14.6	12
SS-22	9/6/2022	1	347	141	488
SS-23	9/6/2022	1	21.9 J	<12.7	0
SS-24	9/6/2022	1	81.7	57.2	139
SS-25	9/6/2022	1	12.6	14.4	27
SS-26	9/6/2022	1	227	135	362
SS-27	9/6/2022	1	<5.42	<13.5	<18.9
SS-28	9/6/2022	1	<6.08	<15.2	<21.3
SS-46	9/21/2022	1	54.1	17.6	72
MTCA Method B Cleanup Level ¹ (White Mineral Oil)					240,000

Notes :

¹ Method B direct contact non-cancer cleanup level

MTCA = Model Toxics Control Act

NA = Not Analyzed

Color highlighted cells indicate reported concentration exceeds corresponding MTCA Cleanup Level.

A full list of analytes is included in the laboratory analytical report.

TPH = Total Petroleum Hydrocarbons

DRO = TPH in the Diesel Range Organics

HO = TPH in the Heavy-Oil Range Organics

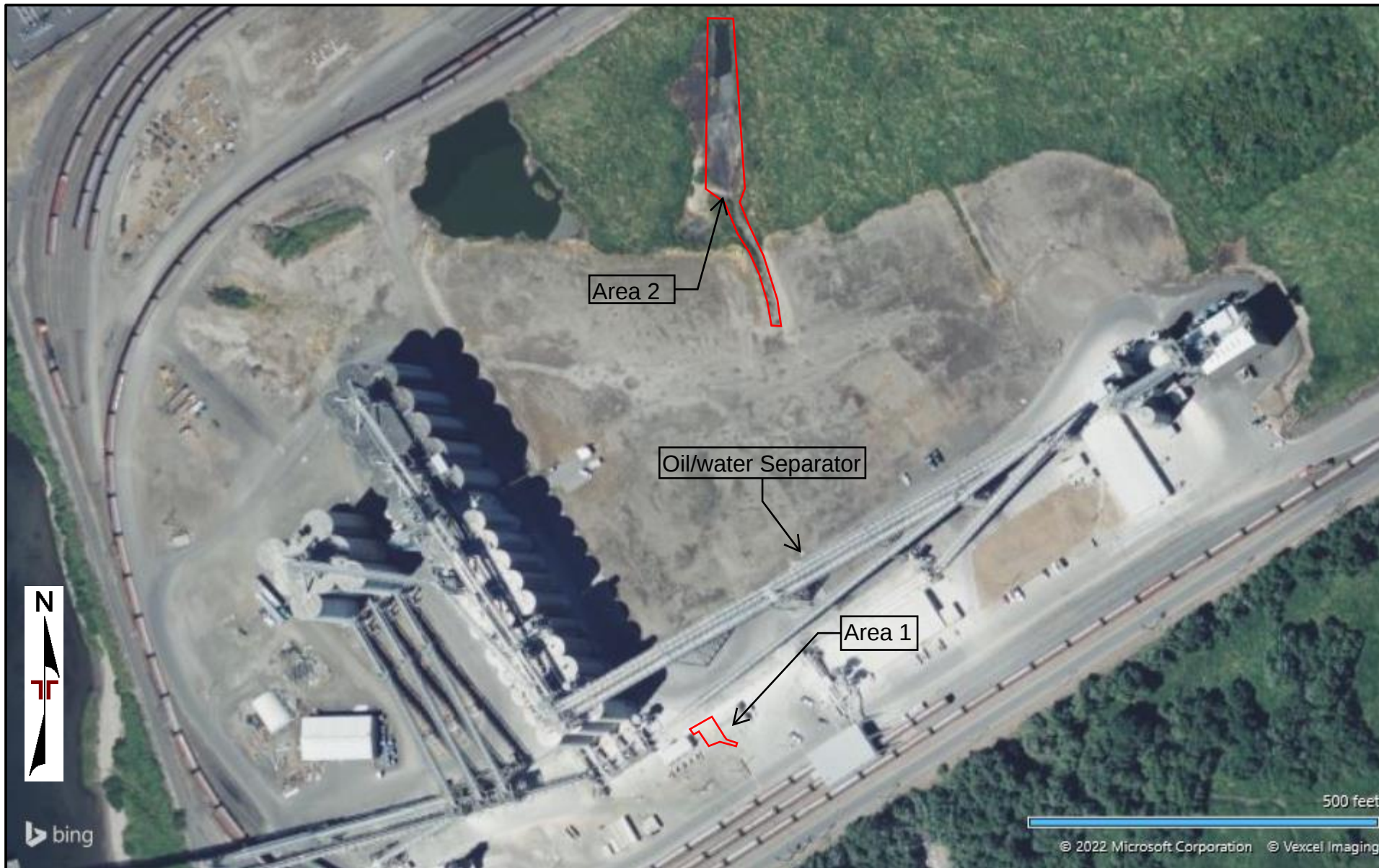
Bold = Detected in Sample

Italic = Removed via remedial over-excavation

< = Not detected above laboratory reporting limit

J = The associated batch QC was outside the established quality control range for precision

V = The sample concentration is too high to evaluate accurate spike recoveries



AERIAL PHOTOGRAPHY PROVIDED BY
MICROSOFT BING MAPS

DRAFT

DIAGRAM IS FOR GENERAL LOCATION ONLY,
AND IS NOT INTENDED FOR CONSTRUCTION
PURPOSES

Project Manager:
RJR

Drawn by:
TMF

Checked by:
TMF

Approved by:
MW

Project No.
82227198

Scale:
AS SHOWN

File Name:
NA

Date:
September 2022

Terracon

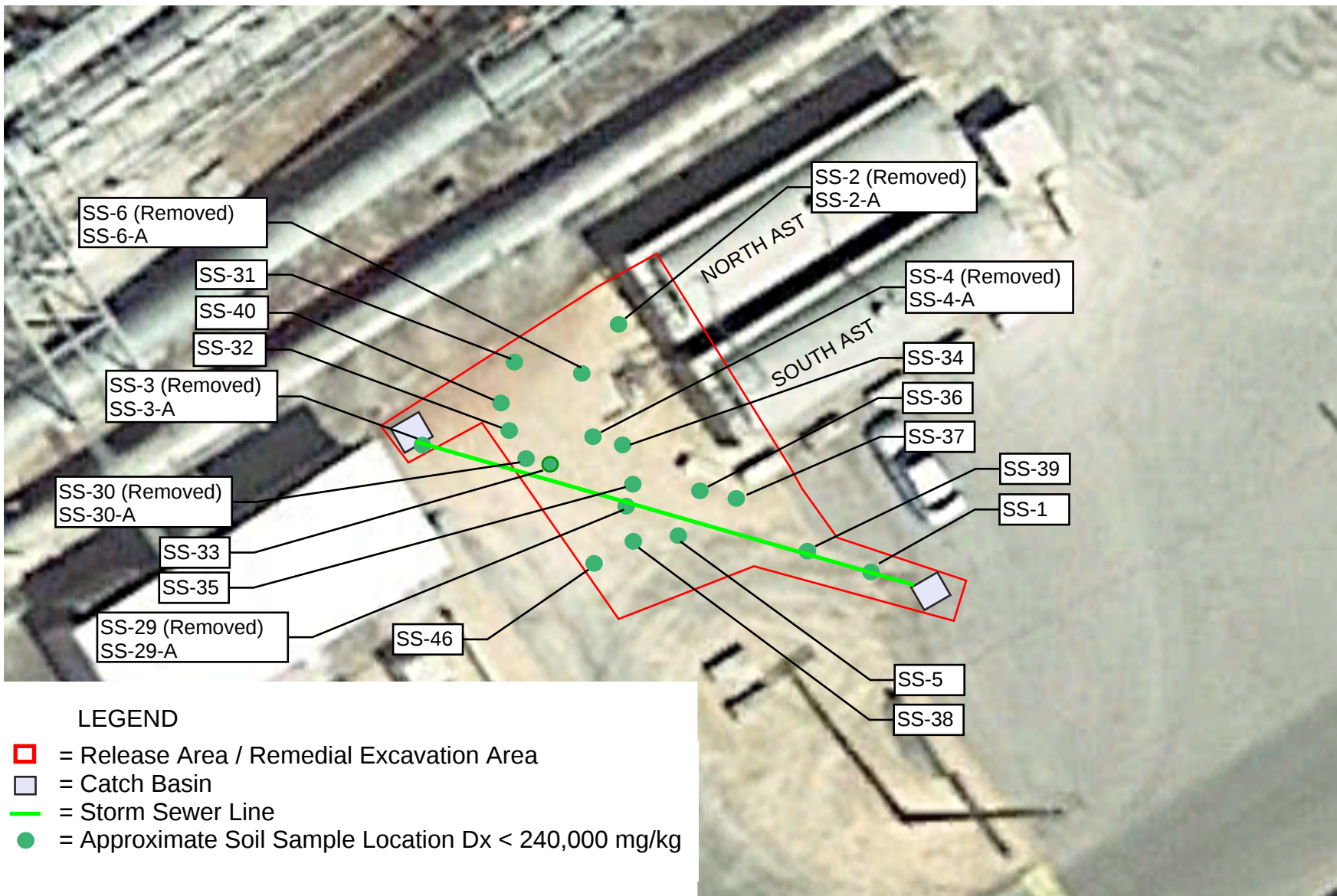
700 NE 55th Ave
Portland, OR 97213-3150

SITE DIAGRAM

The Galivon Group
Kalama Export Mineral Oil Spill
2211 North Hendrickson Drive
Kalama, WA

Exhibit

1



LEGEND

- = Release Area / Remedial Excavation Area
- = Catch Basin
- = Storm Sewer Line
- = Approximate Soil Sample Location Dx < 240,000 mg/kg

DRAFT

DIAGRAM IS FOR GENERAL LOCATION ONLY,
AND IS NOT INTENDED FOR CONSTRUCTION
PURPOSES

Project Manager: RJR
Drawn by: TMF
Checked by: TMF
Approved by: MW

Project No. 82227198
Scale: AS SHOWN
File Name: NA
Date: September 2022

Terracon

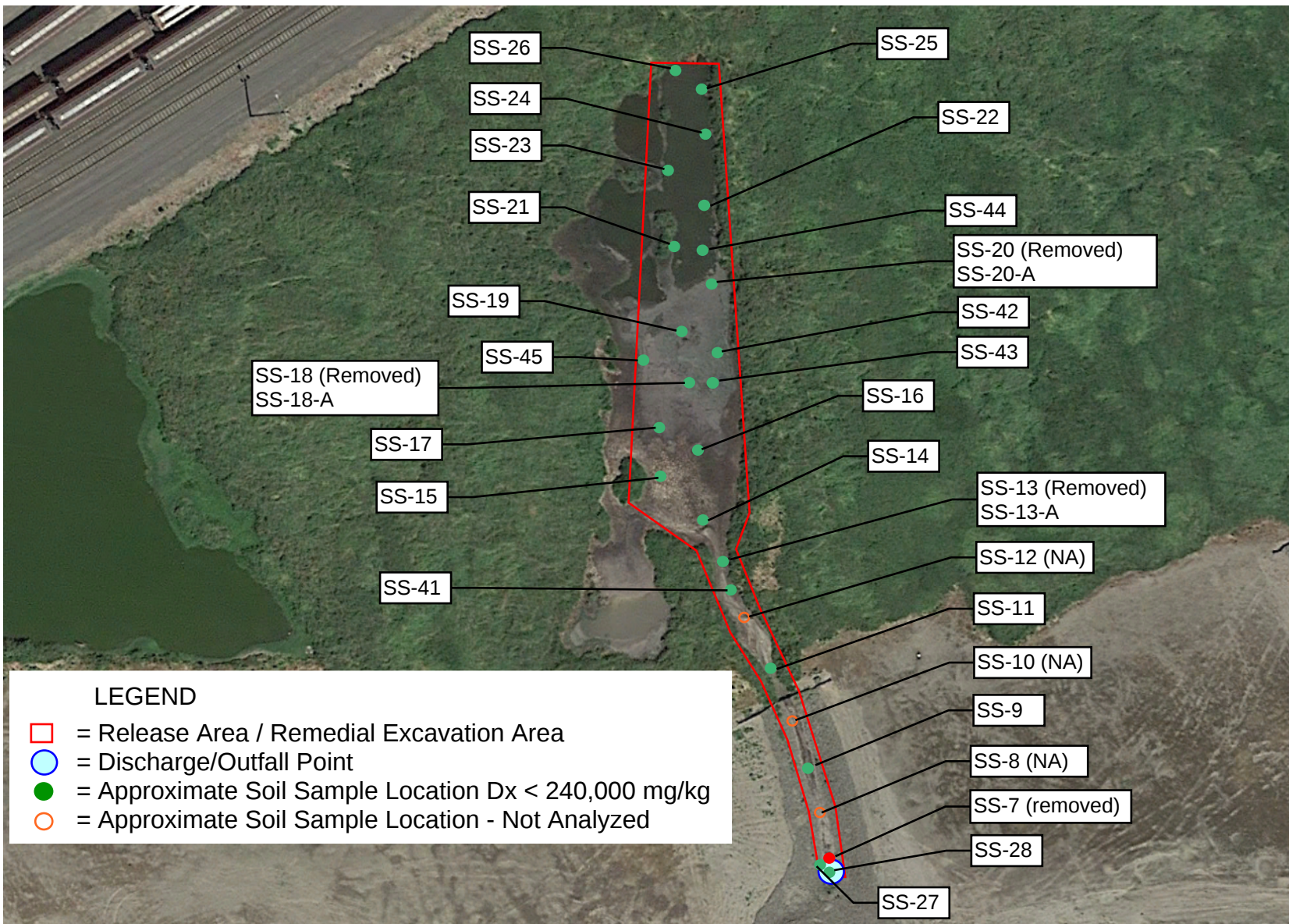
700 NE 55th Ave
Portland, OR 97213-3150

SAMPLE LOCATION MAP - AREA 1

KALAMA EXPORT
Mineral Oil Spill
2211 North Hendrickson Drive, Kalama WA

Exhibit

2



LEGEND

- = Release Area / Remedial Excavation Area
- = Discharge/Outfall Point
- = Approximate Soil Sample Location Dx < 240,000 mg/kg
- = Approximate Soil Sample Location - Not Analyzed

DRAFT

DIAGRAM IS FOR GENERAL LOCATION ONLY,
AND IS NOT INTENDED FOR CONSTRUCTION
PURPOSES

Project Manager:	RJR
Drawn by:	TMF
Checked by:	TMF
Approved by:	MW

Project No.	82227198
Scale:	AS SHOWN
File Name:	NA
Date:	September 2022

Terracon
700 NE 55th Ave
Portland, OR 97213-3150

SAMPLE LOCATION MAP - AREA 2

KALAMA EXPORT
Mineral Oil Spill
2211 North Hendrickson Drive, Kalama WA

Exhibit

3

Fiedler, Aaren (ECY)

From: Rodriguez, Rick J <Rick.Rodriguez2@terracon.com>
Sent: Friday, October 21, 2022 6:15 AM
To: Fiedler, Aaren (ECY)
Cc: Leeper, Mike
Subject: Kalama Export Mineral Oil Release ERTS# 22-3454
Attachments: Kalama - Figes 10-12-22.pdf; Data Tables 2.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning, Aaron,

We wanted to follow up and provide an interim update on remedial actions completed following the release of food grade (non-PCB containing) mineral oil (white mineral oil) that occurred at Kalama Export on September 2, 2022 (ERTS# 22-3454), as well as a discussion of the cleanup level applicable for this release.

First, we want to touch base on cleanup levels (CULs). Initial email communication for of sampling and analysis of affected soils following the reported release, as provided by Ecology, recommended samples be collected and analyzed for constituents outlined in Table 830-1 for mineral oil, in the tables section of MTCA, WAC 173-340-900. The sampling schedule for mineral oil as defined in the notes off Table 830-1 is based on its typical used as an insulator, coolant in electrical devices such as transformers and capacitors. Samples were collected and an analyzed by Northwest Total Petroleum Hydrocarbons (TPH) Method NWTPH-dx and extractable hydrocarbons (EPH) by Method NWEPH. Results from soil samples were initially compared to the MTCA's Method A CUL of 4,000 milligrams per kilogram (mg/kg). After further evaluation and consideration, the product released at the site is a food grade white mineral oil (product SDS attached), which is a refined mineral oil that is non-carcinogenic. Based on the product type, we think it is appropriate to compare analytical results and remedial objectives to MTCA's Cleanup Levels and Risk Calculation (CLARC) Method B CUL for White Mineral Oil of 240,000 mg/kg.

Below is summary of Site activities and remedial efforts performed to date.

Terracon was informed that the release occurred in the early morning hours of Friday September 2, 2022. Approximately 7,000 to 10,000 gallons of white mineral oil (non-PCB containing) was spilled by overfilling one of the aboveground storage tanks (ASTs) from a railcar. White mineral oil impacted soils in the immediate vicinity of the ASTs (Area 1) and entered two adjacent stormwater catch basin and conveyance lines that flow through an oil-water separator (OWS) then discharged from an outfall at a seasonally dry retention pond (Area 2) on the northern portion of the Site. A map of the general release area and areas impacted from the release is included as an attachment.

Kalama Export commenced clean up on September 2, 2022, by performing vacuum extraction (with a vacuum truck) of standing white mineral oil from the ground surface in Area 1 and Area 2. Additional extraction of white mineral oil was completed in the stormwater conveyance piping from the stormwater catch basins in Area 1 extending through the OWS to the outfall located in Area 2.

Terracon mobilized to the site on Tuesday September 6, 2022, to document details of the release and collect confirmation soil samples from in-place soil following the excavation of white mineral oil impacted soil. The following presents a summary of activities and observations conducted by Terracon following our arrival on-Site.

Terracon collected eight soil samples from in-place soils in Area 1 and 22 soil samples from in-place soil in Area 2 following remedial excavation activities. Confirmation soil samples were submitted to an environmental laboratory for total petroleum hydrocarbon (TPH) in the diesel oil range (DRO) and heavy oil range (HO) by Northwest TPH Method NWTPH-dx for rush analysis. Following the receipt of analytical results, over-excavation of soils in Areas 1 and 2 was completed at sample locations with reported concentrations above 4,000 milligrams per kilograms. Over-excavations were completed between September 18 and 21, 2022.

Terracon performed additional confirmation soil sampling following over-excavation activities on September 21, 2022. Terracon collected 17 additional confirmation soil samples from Area 1 and six additional confirmation soil samples from Area 2. Attached is a map presenting soil sample locations. At the completion of remedial excavations in Areas 1 and 2, approximately 75 cubic yards (cy) of impacted soil was removed/over-excavated from Area 1 and approximately 600 cy from Area 2. Soils generated were staged on site, placed on 6-millimeter plastic and covered with tarps and/or plastic. Laboratory results of soil samples collected from in-place soils in Area 1, reported concentrations of DRO ranging from 5.80 mg/kg (SS-44) to 27,700 mg/kg (SS-35) and HO ranging from 4.56 mg/kg (SS-30-A) to 8,620 mg/kg (SS-35). Laboratory results of soil samples collected from in-place soils in Area 2, reported concentrations of DRO ranging from 9.79 mg/kg (SS-20-A) to 826 mg/kg (SS-17) and HO ranging from 6.56 mg/kg (SS-20-A) 381 mg/kg (SS-15).

At this time, no additional excavations are scheduled to be performed at the site. Remedial actions performed appear sufficient in meeting the minimum requirement of MTCA. Terracon on behalf of Kalama Export, will be requesting a No Further Action Determination with Ecology as it related to ERTS# 22-3454. Please let us know if you have any questions or would like to set up a call to further discuss this project.

Thank You,

Rick Rodriguez

Department Manager | Environmental Services



700 NE 55th Avenue | Portland, OR 97213

D (503) 742-7173 | M (206) 380-3491

rick.rodriquez2@terracon.com | Terracon.com



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Terracon provides environmental, facilities, geotechnical, and materials consulting engineering services delivered with responsiveness, resourcefulness, and reliability.

Private and confidential as detailed here (www.terracon.com/disclaimer). If you cannot access the hyperlink, please e-mail sender.

Fiedler, Aaren (ECY)

From: Kallus, Andrew (ECY)
Sent: Wednesday, November 30, 2022 12:28 PM
To: Fiedler, Aaren (ECY)
Subject: RE: Looking for guidance on a substance

Hi Aaren,

White mineral oil is the toxicity surrogate (oral RfD source is EPA PPRTV) we use for the Aliphatic EC16 to 34 fractions when calculating site-specific TPH Method B or C levels (using fractionated data).

The Method B and C white mineral oil levels presented in CLARC only account for ingestion exposure. For petroleum in soil, MTCA says to also include dermal. Dermal is not accounted for in the Method B and C soil levels provided in CLARC for white mineral oil. We don't have levels for GW protection that apply to "white mineral oil".

We are going to remove the calculated Method B and C soil and groundwater white mineral oil levels from CLARC and add a note. The note will indicate that the PLP can default to the Method A levels for mineral oils, or calculate a site-specific Method B or C (soil and/or groundwater) using fractionated data.

Let me know if this clears things up or if you want to discuss further.

Andy

From: Fiedler, Aaren (ECY) <afie461@ECY.WA.GOV>
Sent: Wednesday, November 30, 2022 10:37 AM
To: Kallus, Andrew (ECY) <akal461@ECY.WA.GOV>
Subject: Looking for guidance on a substance

Andy

I am looking at a release of White Mineral Oil with a CAS# of 8042-47-5. MSDS attached.

They are making a claim that the listing in CLARC for White Mineral Oil (CAS# 8012-95-1) is more appropriate than the listing for TPH, mineral oils (no CAS# [unavailable11]).

I need to know if this is a reasonable claim, and I am hoping you will know the answer or pass me along to someone who will.

Fiedler, Aaren (ECY)

From: Kallus, Andrew (ECY)
Sent: Wednesday, November 30, 2022 5:38 PM
To: Fiedler, Aaren (ECY)
Subject: FW: White Mineral Oil

Fyi - Andy

From: Kallus, Andrew (ECY)
Sent: Wednesday, November 30, 2022 5:08 PM
To: Tomlinson, Priscilla (ECY) <PTOM461@ECY.WA.GOV>; Buchan, Arthur (ECY) <ABUC461@ECY.WA.GOV>; San Juan, Charles (ECY) <csan461@ECY.WA.GOV>; Park, Hun Seak (ECY) <HPar461@ECY.WA.GOV>
Subject: White Mineral Oil

Hi – CLARC has white mineral oil listed separately from TPH mineral oils. This is very confusing and we would like to remove the calculated Method B and C cleanup levels for white mineral oil from CLARC. I would leave the entry for white mineral oil to document its RfD, but remove the MTCA calculated values and provide a “Note”. See suggested draft note below.

Appreciate any comments you may have. Thanks! Andy

White mineral oil (CAS 8012-95-1) is the toxicity surrogate for the aliphatic EC>16 to EC34 hydrocarbon fraction. Its oral RfD of 3 mg/kg-day is used to characterize noncancer hazards for this fraction in the calculation of site-specific Method B and C TPH soil and groundwater cleanup levels.

Method B and C soil and groundwater levels for white mineral oil have been removed from CLARC. The soil cleanup levels don’t account for the dermal pathway (as required for petroleum mixtures) or leaching to groundwater, and fractionated hydrocarbon data is needed to verify the composition of the petroleum release rather than assume that it’s all within the aliphatic EC>16 to EC34 hydrocarbon fraction.

To address releases of white mineral oil at a site, TPH sampling for mineral oils should be conducted consistent with Table 830-1 of the MTCA Rule. TPH results may be compared to Method A cleanup levels for mineral oil, or alternatively a site-specific Method B or C cleanup level may be derived based on fractionated product testing using the extractable petroleum hydrocarbons (EPH) method to determine the concentration of aliphatic and aromatic hydrocarbons in specific carbon ranges or fractions.

Thanks, Andy

Note: I'm out of the office working remotely until further notice. Please contact me via the following options:

Cell phone at 360-878-2952 – **Preferred**

E-mail at AKAL461@ecy.wa.gov

Leave me a voicemail on my desk number (360-407-7324)

Andy Kallus

Washington State Department of Ecology

Toxics Cleanup Program – Policy and Technical Support

Mail Stop C3C-17

PO Box 47600

Olympia, WA 98504-7600

360.878.2952 (**Cell**)

360.407.7324 (**Direct**)

360.407.7154 (**Fax**)

360.407.6000 (**Main Reception**)

akal461@ecy.wa.gov

Physical Address: 300 Desmond Dr SE, Lacey, WA 98503

note: send regular mail to the PO Box, and overnight mail to the physical address



A Specialty Oil Distribution Company

SAFETY DATA SHEET

70 NF White Mineral Oil

Page 1 of 6

Revision Date: 9/19/2018 Version: 7 Issue Date: 9/19/2018

PM Group International, Inc. urges the recipient of this Safety Data Sheet to study it carefully to become aware of hazards, if any, of the product involved. In the interest of safety you should (1) notify your employees, agents and contractors of the information of this sheet, (2) furnish a copy to each of your customers for the product and (3) request your customers to inform their employees and customers as well.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Identification of the substance or preparation

Low Viscosity White Mineral Oil

Use of substance/preparation:

Highly refined mineral oil is typically used as a blending base in a variety of applications including cosmetic, pharmaceutical, food and general industrial.

Company identification

PM Group International, Inc.
612500 World Plaza Lane # 3
Fort Myers, Fl. USA

Emergency telephone number

Chemtrec (24hrs): 800-424-9300
Sonneborn: 239-274-0274

2. HAZARDS IDENTIFICATION

GHS Classification :Category 1: Aspiration hazard, Label: GHS 08, Signal word: Danger

Human Health Hazards :H304 May be fatal if swallowed and enters airways

Physico-chemical and environmental hazards and effects: None



Danger

May be fatal if swallowed and enters airways.

HMIS RATING USA

Health: 0	Flammability: 1	Reactivity: 0	PPI: -
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3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	% BY WEIGHT	CAS #	HAZARD	DANGER SYMBOL(S)
White Mineral Oil	100	8042-47-5	H304	GHS08



A Specialty Oil Distribution Company

SAFETY DATA SHEET

70 NF White Mineral Oil

Page 2 of 6

4. FIRST AID MEASURES

Swallowing

Do not induce vomiting. Obtain medical attention immediately. This is not a toxic substance.

Inhalation

No emergency care anticipated. If mineral oil mist is present, see Section 8.

Skin

No emergency care anticipated. Wash skin with soap and water.

Eye contact

Flush eyes thoroughly with water for several minutes. Obtain medical attention if discomfort persists.

5. FIRE-FIGHTING MEASURES

Flash Point: >93.4°C (200°F) PMCC, ASTM D93
--

NFPA CLASSIFICATION USA

Health: 0	Flammability: 1	Reactivity: 0	Special provisions: -
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Extinguishing media

Suitable: Extinguish with:

- dry chemical
- carbon dioxide (in case of small fires)
- water fog
- foam
- sand or earth

Unsuitable: Do not use water jet. Oil will float on water and can spread any fire.

Special firefighting procedures

Do not direct a solid stream of water or foam into burning material; this may cause spattering and spread the fire. If a rail or tank truck is involved in a fire, ISOLATE for 800 meters (0.5 mile) in all directions. Shut off fuel to fire if it is possible to do so without hazard. If this is impossible, withdraw from the area and let the fire burn out under controlled conditions. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire.

Special protective equipment for firefighters

Self-contained breathing apparatus.

Unusual fire and explosion hazards

Following products may be produced during a fire: Oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear suitable protective equipment.

70 NF White Mineral Oil

Environmental precautions

Avoid runoff to sewers or waterways. Dike area of spill to prevent spreading and pump liquid to salvage tank. Waste: avoid washing into watercourses. Use methods consistent with local regulations or incinerate.

Methods for cleaning up

Dike to contain spill. Absorb on inert material such as sand, earth, vermiculite. Stop the leak if it can be done without risk. Floor may be slippery; use care to avoid falling.

7. HANDLING AND STORAGE

HANDLING

Do not handle at temperatures $>+40^{\circ}\text{C}$, unless wearing appropriate protective equipment.

Ventilation

General (mechanical) room ventilation is expected to be satisfactory for use at room temperature.

STORAGE

Storage requirements

Keep away from heat, sparks and flame. Do not store at temperatures: $>+40^{\circ}\text{C}$ without proper safety review of storage equipment. Store protected from light.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMIT VALUES

COMPONENT	COUNTRY	TYPE/REMARK	VALUE
Mineral Oil Mist		If used in a way that generates a "mist", observe the limits for Mineral Oil Mist. TWA (mist), ACGIH STEL (mist), ACGIH	5mg/m ³ 10mg/m ³

OCCUPATIONAL EXPOSURE CONTROLS

Respiratory protection

None expected to be needed. If used in a way that generates a vapor/mist, wear an organic vapor respirator.

Hand protection/protective gloves

Wear oil resistant gloves.

Eye protection

Face shield or chemical splash goggles in case of splashing.

Skin protection

Wear protective clothing, such as long sleeves to minimize skin contact.

Environmental Exposure Controls:

Store in a second containment to catch leakages



A Specialty Oil Distribution Company

SAFETY DATA SHEET

70 NF White Mineral Oil

Page 4 of 6

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical State:	Liquid
Color:	Water-white
Odor:	None or Mild Petroleum
Odor Threshold:	N/A

Important health, safety and environmental information

Flammability	No Data
Evaporation Rate	No Data
Decomposition Temperature	No Data
Flash Point:	>93.4°C (200°F) Method: PMCC, ASTM D93
Upper explosion limits:	Not determined
Lower explosion limits:	Not determined
Vapor Pressure:	<0.1 kPa at 20°C
Density:	0.81 – 0.89 g/cm ³ at 20°C
Bulk Density:	Not available
Solubility in Water:	Insoluble
Solubility in organic solvents:	Soluble
Kinematic viscosity:	< 20.5 mm ² /s at 40°C, < 100 SUS @ 100°F
Boiling Point:	> 230°C
PH:	N/A
Specific gravity (H ₂ O=1)	<1
Partitioning coefficient	log POW: >6 This product is soluble in oil.
Vapor Density:	N/A
Percent volatiles	Nil
Autoignition Temperature:	No Data
Melting Point:	N/A

10. STABILITY AND REACTIVITY

Stability: Stable

Conditions/Materials to avoid: Extreme temperature and direct sunlight/ultraviolet light and strong oxidizing agents.

Hazardous combustion products

Burning can produce the following combustion products: Oxides of carbon and Soot

Hazardous polymerization: Will not occur.



70 NF White Mineral Oil

11. TOXICOLOGICAL INFORMATION

GENERAL

No evidence of harmful effects from available information.

12. ECOLOGICAL INFORMATION

This product is stable in water, and can be mechanically separated from water. The water may be suitable for disposal in a biological waste water treatment plant.

13. DISPOSAL CONSIDERATIONS

Dispose of in accordance with appropriate Federal, State and local regulations or incinerate.

14. TRANSPORT INFORMATION

ADR/RID/IMDG/ICAO

This product is not regulated by ADR / RID / IMDG / ICAO.

USA – This product is not regulated by DOT, Freight Description Road: 65 Petroleum Oil, N.O.I.B.N.

TDG-CANADA

This product is not regulated by TDG.

15. REGULATORY INFORMATION

GHS classification

Danger symbol(s): GHS – classification: Category 1: Aspiration hazard, Label: GHS 08, Signal word: Danger

Risk phrases: H304: May be fatal if swallowed and enters airways

Safety phrases: P301+P310: If swallowed: Immediately call a poison center or doctor/physician
P331: Do not induce vomiting
P405: Store locked up

Contains: White Mineral Oil

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires submission of annual reports of release of toxic chemicals that appear in 40CFR372 (for SARA 313). This information must be included in SDS's that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are:

****NONE****

New Jersey Worker and Community Right-To-Know Act (Labeling Requirements)



A Specialty Oil Distribution Company

SAFETY DATA SHEET

70 NF White Mineral Oil

Page 6 of 6

Chemical name	CAS#	New Jersey TS Number
White Mineral Oil	8042-47-5	

EPA Hazard Categories (SARA 311, 312): None

WHMIS Classification: This product is not a WHMIS controlled product.

Chemical Inventory

<u>Canada:</u>	The ingredients of this product are on the DSL.
<u>Europe:</u>	The ingredients of this product are on the EINECS inventory.
<u>United States:</u>	The ingredients of this product are on the TSCA inventory.
<u>Australia:</u>	The ingredients of this product are on the AICS inventory.
<u>China:</u>	This product is on the IECSC inventory.
<u>Japan:</u>	The ingredients of this product are on the ENCS inventory.
<u>Korea:</u>	This product is listed on the Existing Chemicals List (ECL).
<u>Philippines:</u>	This product is on the PICCS.
<u>New Zealand</u>	This product is on the New Zealand Chemical Inventory (NZIoC)
<u>Taiwan</u>	This product is on the Taiwan Chemical Substance Inventory (TCSI)

16. OTHER INFORMATION

Recommended uses and restrictions

Please consult the product and/or application information bulletins for this product.

Further information, Europe

Where appropriate, use CE approved personal protection equipment.

This Safety Data Sheet conforms to EC Directive 1907/2006 and amendments.

The opinions expressed herein are those of qualified experts within PM Group International, Inc. We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and of these opinions and the conditions of use of this product are not within the control of PM Group International, Inc. it is the user's obligation to determine the conditions of safe use of the products.



Facility/Site

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FS ID: 11758

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Maxar

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Kalama Export Company LLC
2211 Hendrickson Dr Kalama WA 98625

GIS latitude:	Ecology region:	Location description:	Legislative district:
46.028329	SWRO		20
GIS longitude:	County:		Congressional district:
-122.86457	Cowlitz		3
WRIA:			
27			
Tribal land:			
N			

[Alternate names](#) ^

Also known as

Kalama Export Company, LLC.

Alternate names

Interactions ^

Interaction	Interaction description	Ecology program	Ecology program contact	Program ID	Start date	End date
Industrial SW GP	General permit issued to industries to regulate the discharge of contaminated stormwater to state waters.	WATQUAL	(360) 407-6400	WAR304190	5/4/2016	

Interactions for this facility/site

NAICS codes ^

Code	Description
------	-------------

NAICS codes for this facility

SIC codes ^

Code	Description
------	-------------

SIC codes for this facility

Terracon - Portland, OR

Sample Delivery Group: L1538407
Samples Received: 09/22/2022
Project Number: 82227198
Description: Kalama Spill
Site: KALAMA
Report To: Trevor Farrell
700 NE 55th Ave.
Portland, OR 97213

Entire Report Reviewed By:



Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

SAMPLE SUMMARY

SS-2-A L1538407-01 Solid

			Collected by Trevor Farrell	Collected date/time 09/21/22 10:55	Received date/time 09/22/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931084	1	09/23/22 07:12	09/23/22 07:18	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931046	100	09/23/22 05:31	09/23/22 23:24	JAS	Mt. Juliet, TN

SS-3-A L1538407-02 Solid

			Collected by Trevor Farrell	Collected date/time 09/21/22 11:12	Received date/time 09/22/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931084	1	09/23/22 07:12	09/23/22 07:18	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931046	100	09/23/22 05:31	09/24/22 00:42	JAS	Mt. Juliet, TN

SS-4-A L1538407-03 Solid

			Collected by Trevor Farrell	Collected date/time 09/21/22 11:20	Received date/time 09/22/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931084	1	09/23/22 07:12	09/23/22 07:18	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931046	10	09/23/22 05:31	09/23/22 23:37	JAS	Mt. Juliet, TN

SS-6-A L1538407-04 Solid

			Collected by Trevor Farrell	Collected date/time 09/21/22 11:28	Received date/time 09/22/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931084	1	09/23/22 07:12	09/23/22 07:18	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931046	1	09/23/22 05:31	09/23/22 11:39	JDG	Mt. Juliet, TN

SS-13-A L1538407-05 Solid

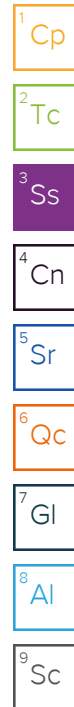
			Collected by Trevor Farrell	Collected date/time 09/21/22 13:40	Received date/time 09/22/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931084	1	09/23/22 07:12	09/23/22 07:18	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931046	1	09/23/22 05:31	09/23/22 14:27	JDG	Mt. Juliet, TN

SS-18-A L1538407-06 Solid

			Collected by Trevor Farrell	Collected date/time 09/21/22 13:55	Received date/time 09/22/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931084	1	09/23/22 07:12	09/23/22 07:18	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931046	1	09/23/22 05:31	09/23/22 14:42	JDG	Mt. Juliet, TN

SS-20-A L1538407-07 Solid

			Collected by Trevor Farrell	Collected date/time 09/21/22 14:02	Received date/time 09/22/22 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931084	1	09/23/22 07:12	09/23/22 07:18	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931046	1	09/23/22 05:31	09/23/22 12:52	JDG	Mt. Juliet, TN



SAMPLE SUMMARY

SS-29-A L1538407-08 Solid

				Collected by Trevor Farrell	Collected date/time 09/21/22 11:34	Received date/time 09/22/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931084	1	09/23/22 07:12	09/23/22 07:18	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931046	100	09/23/22 05:31	09/24/22 00:16	JAS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931046	50	09/23/22 05:31	09/23/22 15:30	JDG	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

SS-30-A L1538407-09 Solid

				Collected by Trevor Farrell	Collected date/time 09/21/22 13:05	Received date/time 09/22/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931084	1	09/23/22 07:12	09/23/22 07:18	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931046	1	09/23/22 05:31	09/23/22 13:07	JDG	Mt. Juliet, TN

SS-31 L1538407-10 Solid

				Collected by Trevor Farrell	Collected date/time 09/21/22 11:45	Received date/time 09/22/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931085	1	09/23/22 07:30	09/23/22 07:36	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931046	1	09/23/22 05:31	09/23/22 13:23	JDG	Mt. Juliet, TN

SS-32 L1538407-11 Solid

				Collected by Trevor Farrell	Collected date/time 09/21/22 11:50	Received date/time 09/22/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931085	1	09/23/22 07:30	09/23/22 07:36	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931046	1	09/23/22 05:31	09/23/22 13:39	JDG	Mt. Juliet, TN

SS-33 L1538407-12 Solid

				Collected by Trevor Farrell	Collected date/time 09/21/22 11:54	Received date/time 09/22/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931085	1	09/23/22 07:30	09/23/22 07:36	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931046	5	09/23/22 05:31	09/24/22 00:03	JAS	Mt. Juliet, TN

SS-34 L1538407-13 Solid

				Collected by Trevor Farrell	Collected date/time 09/21/22 12:02	Received date/time 09/22/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931085	1	09/23/22 07:30	09/23/22 07:36	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931046	1	09/23/22 05:31	09/23/22 13:55	JDG	Mt. Juliet, TN

SS-35 L1538407-14 Solid

				Collected by Trevor Farrell	Collected date/time 09/21/22 12:05	Received date/time 09/22/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931085	1	09/23/22 07:30	09/23/22 07:36	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931048	250	09/23/22 05:34	09/23/22 21:57	JAS	Mt. Juliet, TN

SAMPLE SUMMARY

SS-36 L1538407-15 Solid

				Collected by Trevor Farrell	Collected date/time 09/21/22 12:20	Received date/time 09/22/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931085	1	09/23/22 07:30	09/23/22 07:36	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931048	20	09/23/22 05:34	09/23/22 21:45	JAS	Mt. Juliet, TN

SS-37 L1538407-16 Solid

				Collected by Trevor Farrell	Collected date/time 09/21/22 12:24	Received date/time 09/22/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931085	1	09/23/22 07:30	09/23/22 07:36	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931048	25	09/23/22 05:34	09/23/22 22:10	JAS	Mt. Juliet, TN

SS-38 L1538407-17 Solid

				Collected by Trevor Farrell	Collected date/time 09/21/22 12:38	Received date/time 09/22/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931085	1	09/23/22 07:30	09/23/22 07:36	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931048	25	09/23/22 05:34	09/23/22 22:10	JAS	Mt. Juliet, TN

SS-39 L1538407-18 Solid

				Collected by Trevor Farrell	Collected date/time 09/21/22 12:45	Received date/time 09/22/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931085	1	09/23/22 07:30	09/23/22 07:36	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931048	25	09/23/22 05:34	09/23/22 22:34	JAS	Mt. Juliet, TN

SS-40 L1538407-19 Solid

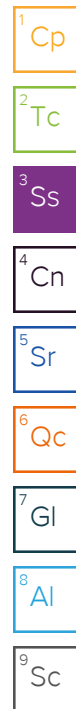
				Collected by Trevor Farrell	Collected date/time 09/21/22 11:40	Received date/time 09/22/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931085	1	09/23/22 07:30	09/23/22 07:36	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931048	1	09/23/22 05:34	09/23/22 12:11	JAS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931048	1	09/23/22 05:34	09/23/22 20:42	JAS	Mt. Juliet, TN

SS-41 L1538407-20 Solid

				Collected by Trevor Farrell	Collected date/time 09/21/22 13:45	Received date/time 09/22/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931086	1	09/23/22 07:21	09/23/22 07:28	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931048	1	09/23/22 05:34	09/23/22 22:22	JAS	Mt. Juliet, TN

SS-42 L1538407-21 Solid

				Collected by Trevor Farrell	Collected date/time 09/21/22 14:08	Received date/time 09/22/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931086	1	09/23/22 07:21	09/23/22 07:28	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931048	5	09/23/22 05:34	09/23/22 21:20	JAS	Mt. Juliet, TN



SAMPLE SUMMARY

SS-43 L1538407-22 Solid

Collected by
Trevor Farrell

Collected date/time
09/21/22 14:12

Received date/time
09/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931086	1	09/23/22 07:21	09/23/22 07:28	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931048	1	09/23/22 05:34	09/23/22 21:32	JAS	Mt. Juliet, TN

SS-44 L1538407-23 Solid

Collected by
Trevor Farrell

Collected date/time
09/21/22 14:28

Received date/time
09/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931086	1	09/23/22 07:21	09/23/22 07:28	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931048	1	09/23/22 05:34	09/23/22 11:47	JAS	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931048	1	09/23/22 05:34	09/23/22 20:17	JAS	Mt. Juliet, TN

SS-45 L1538407-24 Solid

Collected by
Trevor Farrell

Collected date/time
09/21/22 14:32

Received date/time
09/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931086	1	09/23/22 07:21	09/23/22 07:28	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931048	1	09/23/22 05:34	09/23/22 20:42	JAS	Mt. Juliet, TN

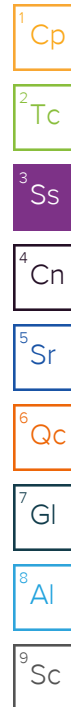
SS-46 L1538407-25 Solid

Collected by
Trevor Farrell

Collected date/time
09/21/22 14:58

Received date/time
09/22/22 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1931086	1	09/23/22 07:21	09/23/22 07:28	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1931048	1	09/23/22 05:34	09/23/22 20:55	JAS	Mt. Juliet, TN

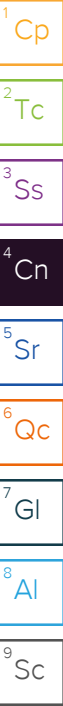


CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.2		1	09/23/2022 07:18	WG1931084

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	14700		138	416	100	09/23/2022 23:24	WG1931046
Residual Range Organics (RRO)	4120		346	1040	100	09/23/2022 23:24	WG1931046
(S) o-Terphenyl	0.000	J7		18.0-148		09/23/2022 23:24	WG1931046

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.8		1	09/23/2022 07:18	WG1931084

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	20900		139	418	100	09/24/2022 00:42	WG1931046
Residual Range Organics (RRO)	6150		348	1040	100	09/24/2022 00:42	WG1931046
(S) o-Terphenyl	0.000	J7		18.0-148		09/24/2022 00:42	WG1931046

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.3		1	09/23/2022 07:18	WG1931084

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1840		14.0	42.0	10	09/23/2022 23:37	WG1931046
Residual Range Organics (RRO)	497		34.9	105	10	09/23/2022 23:37	WG1931046
(S) o-Terphenyl	0.000	J2		18.0-148		09/23/2022 23:37	WG1931046

Sample Narrative:

L1538407-03 WG1931046: Surrogate failure due to matrix interference during extraction procedure.

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.7		1	09/23/2022 07:18	WG1931084

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	310	V	1.39	4.18	1	09/23/2022 11:39	WG1931046
Residual Range Organics (RRO)	81.0		3.48	10.5	1	09/23/2022 11:39	WG1931046
(S) o-Terphenyl	40.0			18.0-148		09/23/2022 11:39	WG1931046

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	62.8		1	09/23/2022 07:18	WG1931084

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	481		2.12	6.37	1	09/23/2022 14:27	WG1931046
Residual Range Organics (RRO)	150		5.30	15.9	1	09/23/2022 14:27	WG1931046
(S) o-Terphenyl	28.4			18.0-148		09/23/2022 14:27	WG1931046

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	46.4		1	09/23/2022 07:18	WG1931084

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	54.5		2.86	8.62	1	09/23/2022 14:42	WG1931046
Residual Range Organics (RRO)	113		7.17	21.5	1	09/23/2022 14:42	WG1931046
(S) o-Terphenyl	51.1			18.0-148		09/23/2022 14:42	WG1931046

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	65.0		1	09/23/2022 07:18	WG1931084

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	9.79		2.05	6.16	1	09/23/2022 12:52	WG1931046
Residual Range Organics (RRO)	6.56	<u>J</u>	5.12	15.4	1	09/23/2022 12:52	WG1931046
(S) o-Terphenyl	78.2			18.0-148		09/23/2022 12:52	WG1931046

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.8		1	09/23/2022 07:18	WG1931084

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	21300		139	417	100	09/24/2022 00:16	WG1931046
Residual Range Organics (RRO)	7370		173	522	50	09/23/2022 15:30	WG1931046
(S) o-Terphenyl	0.000	J7		18.0-148		09/24/2022 00:16	WG1931046
(S) o-Terphenyl	0.000	J7		18.0-148		09/23/2022 15:30	WG1931046

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.5		1	09/23/2022 07:18	WG1931084

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	8.13		1.39	4.19	1	09/23/2022 13:07	WG1931046
Residual Range Organics (RRO)	4.56	<u>J</u>	3.49	10.5	1	09/23/2022 13:07	WG1931046
(S) o-Terphenyl	77.6			18.0-148		09/23/2022 13:07	WG1931046

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.4		1	09/23/2022 07:36	WG1931085

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	17.3		1.39	4.19	1	09/23/2022 13:23	WG1931046
Residual Range Organics (RRO)	5.88	<u>J</u>	3.49	10.5	1	09/23/2022 13:23	WG1931046
(S) o-Terphenyl	57.5			18.0-148		09/23/2022 13:23	WG1931046

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.5		1	09/23/2022 07:36	WG1931085

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	3.83	<u>J</u>	1.39	4.19	1	09/23/2022 13:39	WG1931046
Residual Range Organics (RRO)	U		3.49	10.5	1	09/23/2022 13:39	WG1931046
(S) o-Terphenyl	65.7			18.0-148		09/23/2022 13:39	WG1931046

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.1		1	09/23/2022 07:36	WG1931085

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1000		6.99	21.0	5	09/24/2022 00:03	WG1931046
Residual Range Organics (RRO)	279		17.5	52.6	5	09/24/2022 00:03	WG1931046
(S) o-Terphenyl	0.000	J2		18.0-148		09/24/2022 00:03	WG1931046

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.7		1	09/23/2022 07:36	WG1931085

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	51.8		1.39	4.18	1	09/23/2022 13:55	WG1931046
Residual Range Organics (RRO)	15.0		3.48	10.4	1	09/23/2022 13:55	WG1931046
(S) o-Terphenyl	67.5			18.0-148		09/23/2022 13:55	WG1931046

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.6		1	09/23/2022 07:36	WG1931085

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	27700		352	1060	250	09/23/2022 21:57	WG1931048
Residual Range Organics (RRO)	8620		881	2640	250	09/23/2022 21:57	WG1931048
(S) o-Terphenyl	0.000	J7		18.0-148		09/23/2022 21:57	WG1931048

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.9		1	09/23/2022 07:36	WG1931085

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	2130		27.7	83.4	20	09/23/2022 21:45	WG1931048
Residual Range Organics (RRO)	675		69.5	209	20	09/23/2022 21:45	WG1931048
(S) o-Terphenyl	0.000	J7		18.0-148		09/23/2022 21:45	WG1931048

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.3		1	09/23/2022 07:36	WG1931085

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	2970		34.6	104	25	09/23/2022 22:10	WG1931048
Residual Range Organics (RRO)	950		86.5	260	25	09/23/2022 22:10	WG1931048
(S) o-Terphenyl	0.000	J7		18.0-148		09/23/2022 22:10	WG1931048

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.3		1	09/23/2022 07:36	WG1931085

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	2690		34.6	104	25	09/23/2022 22:10	WG1931048
Residual Range Organics (RRO)	843		86.5	260	25	09/23/2022 22:10	WG1931048
(S) o-Terphenyl	0.000	J7		18.0-148		09/23/2022 22:10	WG1931048

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.9		1	09/23/2022 07:36	WG1931085

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	4620		34.4	103	25	09/23/2022 22:34	WG1931048
Residual Range Organics (RRO)	1460		86.0	258	25	09/23/2022 22:34	WG1931048
(S) o-Terphenyl	0.000	J7		18.0-148		09/23/2022 22:34	WG1931048

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.9		1	09/23/2022 07:36	WG1931085

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	10.6		1.39	4.17	1	09/23/2022 20:42	WG1931048
Residual Range Organics (RRO)	10.1	<u>J</u>	3.47	10.4	1	09/23/2022 12:11	WG1931048
(S) o-Terphenyl	54.2			18.0-148		09/23/2022 12:11	WG1931048
(S) o-Terphenyl	50.9			18.0-148		09/23/2022 20:42	WG1931048

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	69.6		1	09/23/2022 07:28	WG1931086

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	231		1.91	5.75	1	09/23/2022 22:22	WG1931048
Residual Range Organics (RRO)	73.4		4.79	14.4	1	09/23/2022 22:22	WG1931048
(S) o-Terphenyl	46.9			18.0-148		09/23/2022 22:22	WG1931048

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	67.8		1	09/23/2022 07:28	WG1931086

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	600		9.81	29.5	5	09/23/2022 21:20	WG1931048
Residual Range Organics (RRO)	198		24.5	73.8	5	09/23/2022 21:20	WG1931048
(S) o-Terphenyl	92.1			18.0-148		09/23/2022 21:20	WG1931048

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	62.5		1	09/23/2022 07:28	WG1931086

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	78.1		2.13	6.40	1	09/23/2022 21:32	WG1931048
Residual Range Organics (RRO)	44.7		5.33	16.0	1	09/23/2022 21:32	WG1931048
(S) o-Terphenyl	28.0			18.0-148		09/23/2022 21:32	WG1931048

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	71.9		1	09/23/2022 07:28	WG1931086

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	5.80		1.85	5.56	1	09/23/2022 20:17	WG1931048
Residual Range Organics (RRO)	6.07	<u>J</u>	4.63	13.9	1	09/23/2022 11:47	WG1931048
(S) o-Terphenyl	38.0			18.0-148		09/23/2022 11:47	WG1931048
(S) o-Terphenyl	39.3			18.0-148		09/23/2022 20:17	WG1931048

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	65.3		1	09/23/2022 07:28	WG1931086

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	8.77		2.04	6.12	1	09/23/2022 20:42	WG1931048
Residual Range Organics (RRO)	20.2		5.10	15.3	1	09/23/2022 20:42	WG1931048
(S) o-Terphenyl	46.5			18.0-148		09/23/2022 20:42	WG1931048

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.7		1	09/23/2022 07:28	WG1931086

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	54.1		1.39	4.18	1	09/23/2022 20:55	WG1931048
Residual Range Organics (RRO)	17.6		3.48	10.5	1	09/23/2022 20:55	WG1931048
(S) o-Terphenyl	47.7			18.0-148		09/23/2022 20:55	WG1931048

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Method Blank (MB)

(MB) R3840685-1 09/23/22 07:18

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00200			

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L1538407-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1538407-07 09/23/22 07:18 • (DUP) R3840685-3 09/23/22 07:18

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	65.0	67.2	1	3.32		10

Laboratory Control Sample (LCS)

(LCS) R3840685-2 09/23/22 07:18

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3840693-1 09/23/22 07:36

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L1538407-17 Original Sample (OS) • Duplicate (DUP)

(OS) L1538407-17 09/23/22 07:36 • (DUP) R3840693-3 09/23/22 07:36

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	96.3	96.5	1	0.272		10

Laboratory Control Sample (LCS)

(LCS) R3840693-2 09/23/22 07:36

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.1	100	85.0-115	

Method Blank (MB)

(MB) R3840687-1 09/23/22 07:28

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1538359-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1538359-01 09/23/22 07:28 • (DUP) R3840687-3 09/23/22 07:28

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	95.7	93.9	1	1.93		10

Laboratory Control Sample (LCS)

(LCS) R3840687-2 09/23/22 07:28

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	99.9	85.0-115	

⁷Gl

⁸Al

⁹Sc

WG1931046

QUALITY CONTROL SUMMARY

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

L1538407-01,02,03,04,05,06,07,08,09,10,11,12,13

Method Blank (MB)

(MB) R3840798-1 09/23/22 09:39

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	75.8			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3840798-2 09/23/22 09:52

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	40.9	81.8	50.0-150	
(S) o-Terphenyl			95.3	18.0-148	

L1538407-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1538407-04 09/23/22 11:39 • (MS) R3840798-3 09/23/22 11:59 • (MSD) R3840798-4 09/23/22 12:12

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	52.0	310	510	608	384	586	1	50.0-150	E V	E V	17.6	20
(S) o-Terphenyl					33.2	31.5		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

WG1931048

QUALITY CONTROL SUMMARY

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

L1538407-14,15,16,17,18,19,20,21,22,23,24,25

Method Blank (MB)

(MB) R3840772-1 09/23/22 11:06

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	70.7			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3840772-2 09/23/22 11:22

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	40.6	81.2	50.0-150	
(S) o-Terphenyl			81.1	18.0-148	

L1538407-24 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1538407-24 09/23/22 20:42 • (MS) R3840772-3 09/23/22 20:55 • (MSD) R3840772-4 09/23/22 21:07

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	75.0	8.77	63.5	64.7	73.0	76.2	1	50.0-150			1.91	20
(S) o-Terphenyl					66.5	76.4		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

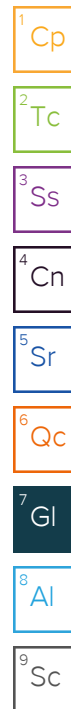
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
V	The sample concentration is too high to evaluate accurate spike recoveries.



ACCREDITATIONS & LOCATIONS

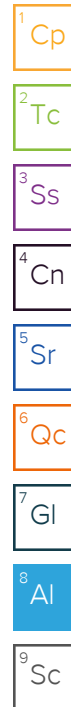
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

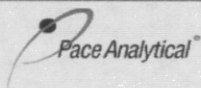
Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.





CHAIN-OF-CUSTODY Analytical Request Document

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubfs/pas-standard-terms.pdf>
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Company: Terracon	Billing Information:	
Address: 700 NE 55th Ave, PDX	Accounts Payable 700 NE 55	
Report To: Trevor.farrell@terracon.com	Email To:	
Copy To: Rick.Rodriguez@terracon.com	Site Collection Info/Address: 82227198	
Customer Project Name/Number:	State: WA County/City: Kalamazoo Time Zone Collected: [] PT [] MT [] CT [] ET	
Phone: 503-459-1602	Site/Facility ID #: Kalamazoo	Compliance Monitoring? ☐ Yes ☒ No
Collected By (print): Trevor Farrell	Purchase Order #:	DW PWS ID #:
Collected By (signature):	Quote #:	DW Location Code:
Sample Disposal:	Turnaround Date Required:	Immediately Packed on Ice: ☒ Yes ☐ No
☐ Dispose as appropriate ☐ Return ☐ Archive: ☐ Hold:	Rush: (Expedite Charges Apply) ☐ Same Day ☐ Next Day ☒ 2 Day ☐ 3 Day ☐ 4 Day ☐ 5 Day	Field Filtered (if applicable): ☐ Yes ☐ No Analysis:

Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start)		Composite End		Res CI	# of Ctns
			Date	Time	Date	Time		
SS-2-A	SS	6	9/21	10:55				1
SS-3-A				11:12				
SS-4-A				11:20				
SS-6-A				11:28				
SS-13-A				13:40				
SS-18-A				13:55				
SS-20-A				14:02				
SS-29-A				11:34				
SS-30-A				13:05				
SS-31				11:45				

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used:

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #:

Samples received via:

FEDEX UPS Client Courier Pace Courier

Relinquished by/Company: (Signature)

Date/Time: 9/21 5:00

Received by/Company: (Signature)

Date/Time:

Relinquished by/Company: (Signature)

Date/Time:

Received by/Company: (Signature)

Date/Time:

Relinquished by/Company: (Signature)

Date/Time:

Received by/Company: (Signature)

Date/Time:

MTJL LAB USE ONLY

Table #

Acctnum

Template:

Prelogin:

PM:

PB:

1074

Lab Sample Temperature Info:

Temp Blank Received: Y N NA

Therm ID#:

Cooler 1 Temp Upon Receipt: °C

Cooler 1 Therm Corr. Factor: °C

Cooler 1 Corrected Temp: °C

Comments:

Blank Received: Y N NA

HCL MeOH TSP Other

Non Conformance(s):

YES / NO

Page:

of: 3

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or

MTJL Log-in Number Here

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Container Preservative Type **

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

Analyses

Lab Profile/Line:

Lab Sample Receipt Checklist:
Custody Seals Present/Intact Y N NA
Custody Signatures Present Y N NA
Collector Signature Present Y N NA
Bottles Intact Y N NA
Correct Bottles Y N NA
Sufficient Volume Y N NA
Samples Received on Ice Y N NA
VOA - Headspace Acceptable Y N NA
USDA Regulated Soils Y N NA
Samples in Holding Time Y N NA
Residual Chlorine Present Y N NA
Cl Strips:
Sample pH Acceptable Y N NA
pH Strips:
Sulfide Present Y N NA
Lead Acetate Strips:

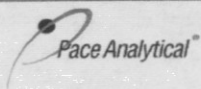
LAB USE ONLY:

Lab Sample # / Comments:

L1538407

Sample Receipt Checklist

COC Seal Present/Intact: Y N NA
COC Signed/Accurate: Y N NA
Bottles arrive intact: Y N NA
Correct bottles used: Y N NA
Sufficient volume sent: Y N NA
RAD Screen <0.5 mR/hr: Y N NA
If Applicable
VOA Zero Headspace: Y N NA
Pres. Correct/Check: Y N NA



CHAIN-OF-CUSTODY Analytical Request Document

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubs/pas-standard-terms.pdf>
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Company: <u>TERRACOM</u>	Billing Information: <u>Accounts Payable</u>	
Address: <u>100 NE 55 Ave, PDX</u>	Email To:	
Report To: <u>trevor.farrell@terracon.com</u>	Site Collection Info/Address: <u>82227188</u>	
Copy To: <u>Rick.Rodriguez@terracon.com</u>	State: <u>WA</u> County/City: <u>Kalamazoo</u> Time Zone Collected: <u>PT</u> <u>MT</u> <u>CT</u> <u>ET</u>	
Customer Project Name/Number: <u>Lealamia Spill</u>	State: <u>WA</u> County/City: <u>Kalamazoo</u> Time Zone Collected: <u>PT</u> <u>MT</u> <u>CT</u> <u>ET</u>	
Phone: <u>503-454-1602</u>	Site/Facility ID #: <u>Kalamazoo</u>	Compliance Monitoring? ☐ Yes ☒ No
Collected By (print): <u>Trevor Farrell</u>	Purchase Order #: <u></u>	DW PWS ID #: <u></u>
Collected By (signature): <u>[Signature]</u>	Quote #: <u></u>	DW Location Code: <u></u>
Sample Disposal: ☐ Dispose as appropriate ☐ Return ☐ Archive: <u></u> ☐ Hold: <u></u>	Turnaround Date Required: <u></u>	Immediately Packed on Ice: ☐ Yes ☐ No
	Rush: (Expedite Charges Apply) ☐ Same Day ☐ Next Day ☒ 2 Day ☐ 3 Day ☐ 4 Day ☐ 5 Day	Field Filtered (if applicable): ☐ Yes ☐ No
Analysis: <u></u>		
Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)		

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start)		Composite End		Res Cl	# of Ctns
			Date	Time	Date	Time		
SS-32	SS	G	9/21	11:50				
SS-33				11:54				
SS-34				12:02				
SS-35				12:05				
SS-36				12:20				
SS-37				12:24				
SS-38				12:38				
SS-39				12:45				
SS-40				11:40				
SS-41				13:45				

Customer Remarks / Special Conditions / Possible Hazards: <u></u>	Type of Ice Used: <u>Wet</u> <u>Blue</u> <u>Dry</u> <u>None</u>	SHORT HOLDS PRESENT (<72 hours): <u>Y</u> <u>N</u> <u>N/A</u>
	Packing Material Used: <u></u>	Lab Tracking #: <u>2782 60387 0641</u>
	Radchem sample(s) screened (<500 cpm): <u>Y</u> <u>N</u> <u>NA</u>	Samples received via: <u>FEDEX</u> <u>UPS</u> <u>Client</u> <u>Courier</u> <u>Pace Courier</u>

Relinquished by/Company: (Signature) <u>[Signature]</u>	Date/Time: <u>9/21 5:00</u>	Received by/Company: (Signature) <u></u>	Date/Time: <u></u>
Relinquished by/Company: (Signature) <u></u>	Date/Time: <u></u>	Received by/Company: (Signature) <u></u>	Date/Time: <u></u>
Relinquished by/Company: (Signature) <u></u>	Date/Time: <u></u>	Received by/Company: (Signature) <u>Hana Minkchina</u>	Date/Time: <u>09/22-09:00</u>

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

ALL BOLD OUTLINED AREAS are for LAB USE ONLY

Container Preservative Type **	Lab Project Manager:
** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other	
Analyses	Lab Profile/Line:
<u>DX</u> <u>NWTPH</u>	Lab Sample Receipt Checklist:
	Custody Seals Present/Intact <u>Y</u> <u>N</u> <u>NA</u>
	Custody Signatures Present <u>Y</u> <u>N</u> <u>NA</u>
	Collector Signature Present <u>Y</u> <u>N</u> <u>NA</u>
	Bottles Intact <u>Y</u> <u>N</u> <u>NA</u>
	Correct Bottles <u>Y</u> <u>N</u> <u>NA</u>
	Sufficient Volume <u>Y</u> <u>N</u> <u>NA</u>
	Samples Received on Ice <u>Y</u> <u>N</u> <u>NA</u>
	VOA - Headspace Acceptable <u>Y</u> <u>N</u> <u>NA</u>
	USDA Regulated Soils <u>Y</u> <u>N</u> <u>NA</u>
Samples in Holding Time <u>Y</u> <u>N</u> <u>NA</u>	
Residual Chlorine Present <u>Y</u> <u>N</u> <u>NA</u>	
Cl Strips: <u></u>	
Sample pH Acceptable <u>Y</u> <u>N</u> <u>NA</u>	
pH Strips: <u></u>	
Sulfide Present <u>Y</u> <u>N</u> <u>NA</u>	
Lead Acetate Strips: <u></u>	
LAB USE ONLY:	
Lab Sample # / Comments: <u>61538407</u>	

Sample Receipt Checklist	
COC Seal Present/Intact: <u>Y</u> <u>N</u> <u>NA</u>	If Applicable
COC Signed/Accurate: <u>Y</u> <u>N</u> <u>NA</u>	VOA Zero Headspace: <u>Y</u> <u>N</u> <u>NA</u>
Bottles arrive intact: <u>Y</u> <u>N</u> <u>NA</u>	Pres. Correct/Check: <u>Y</u> <u>N</u> <u>NA</u>
Correct bottles used: <u>Y</u> <u>N</u> <u>NA</u>	
Sufficient volume sent: <u>Y</u> <u>N</u> <u>NA</u>	
RAD Screen <0.5 mR/hr: <u>Y</u> <u>N</u> <u>NA</u>	

LAB Sample Temperature Info:	
Temp Blank Received: <u>Y</u> <u>N</u> <u>NA</u>	
Therm ID#: <u></u>	
Cooler 1 Temp Upon Receipt: <u>0</u> °C	
Cooler 1 Therm Corr. Factor: <u>0</u> °C	
Cooler 1 Corrected Temp: <u>0</u> °C	
Comments: <u></u>	

Trip Blank Received: <u>Y</u> <u>N</u> <u>NA</u>	
HCL MeOH TSP Other	
Non Conformance(s): <u></u>	Page: <u>2</u>
YES / NO	of: <u>3</u>

Terracon - Portland, OR

Sample Delivery Group: L1533659

Samples Received: 09/08/2022

Project Number: 82227198

Description: Kalama Spill

Report To: Trevor Farrell
700 NE 55th Ave.
Portland, OR 97213

Entire Report Reviewed By:



Brian Ford
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

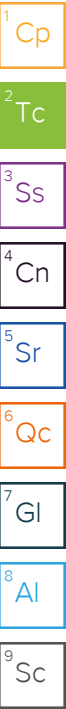
Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

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¹ Cp
² Tc
³ Ss
⁴ Cn
⁵ Sr
⁶ Qc
⁷ Gl
⁸ Al
⁹ Sc

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SAMPLE SUMMARY

SS-1 L1533659-01 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 11:15	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923660	1	09/09/22 14:19	09/09/22 14:54	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	25	09/10/22 09:43	09/12/22 00:00	NH	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

SS-2 L1533659-02 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 11:40	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923660	1	09/09/22 14:19	09/09/22 14:54	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	100	09/10/22 09:43	09/12/22 01:00	NH	Mt. Juliet, TN

⁴ Cn

⁵ Sr

⁶ Qc

SS-3 L1533659-03 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 11:45	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923660	1	09/09/22 14:19	09/09/22 14:54	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	100	09/10/22 09:43	09/10/22 20:58	TJD	Mt. Juliet, TN

⁷ Gl

⁸ Al

⁹ Sc

SS-4 L1533659-04 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 12:00	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923660	1	09/09/22 14:19	09/09/22 14:54	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	50	09/10/22 09:43	09/12/22 00:39	NH	Mt. Juliet, TN

SS-05 L1533659-05 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 12:10	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923660	1	09/09/22 14:19	09/09/22 14:54	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	25	09/10/22 09:43	09/12/22 02:46	NH	Mt. Juliet, TN

SS-06 L1533659-06 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 12:50	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923660	1	09/09/22 14:19	09/09/22 14:54	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	50	09/10/22 09:43	09/12/22 00:26	NH	Mt. Juliet, TN

SS-07 L1533659-07 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 14:05	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923660	1	09/09/22 14:19	09/09/22 14:54	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	25	09/10/22 09:43	09/11/22 23:47	NH	Mt. Juliet, TN

SAMPLE SUMMARY

SS-09 L1533659-09 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 15:00	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923660	1	09/09/22 14:19	09/09/22 14:54	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	1	09/10/22 09:43	09/10/22 15:30	TJD	Mt. Juliet, TN

SS-11 L1533659-11 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 15:15	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923660	1	09/09/22 14:19	09/09/22 14:54	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	1	09/10/22 09:43	09/10/22 15:43	TJD	Mt. Juliet, TN

SS-13 L1533659-13 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 15:25	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923660	1	09/09/22 14:19	09/09/22 14:54	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	250	09/10/22 09:43	09/12/22 00:13	NH	Mt. Juliet, TN

SS-14 L1533659-14 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 15:35	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923661	1	09/10/22 10:14	09/10/22 10:29	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	1	09/10/22 09:43	09/10/22 16:01	TJD	Mt. Juliet, TN

SS-15 L1533659-15 Solid

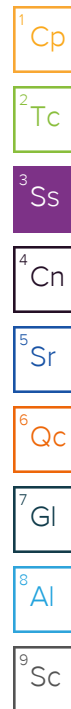
				Collected by Trevor Farrell	Collected date/time 09/06/22 16:00	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923661	1	09/10/22 10:14	09/10/22 10:29	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	5	09/10/22 09:43	09/12/22 02:33	NH	Mt. Juliet, TN

SS-16 L1533659-16 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 16:15	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923661	1	09/10/22 10:14	09/10/22 10:29	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	1	09/10/22 09:43	09/10/22 17:20	TJD	Mt. Juliet, TN

SS-17 L1533659-17 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 16:25	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923661	1	09/10/22 10:14	09/10/22 10:29	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	5	09/10/22 09:43	09/12/22 02:20	NH	Mt. Juliet, TN



SAMPLE SUMMARY

SS-18 L1533659-18 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 16:30	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923661	1	09/10/22 10:14	09/10/22 10:29	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	10	09/10/22 09:43	09/10/22 20:32	NH	Mt. Juliet, TN

SS-19 L1533659-19 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 16:35	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923661	1	09/10/22 10:14	09/10/22 10:29	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	1	09/10/22 09:43	09/10/22 16:14	TJD	Mt. Juliet, TN

SS-20 L1533659-20 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 16:50	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923661	1	09/10/22 10:14	09/10/22 10:29	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	100	09/10/22 09:43	09/12/22 02:07	NH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	20	09/10/22 09:43	09/10/22 21:24	TJD	Mt. Juliet, TN

SS-21 L1533659-21 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 16:55	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923661	1	09/10/22 10:14	09/10/22 10:29	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	1	09/10/22 09:43	09/12/22 01:42	NH	Mt. Juliet, TN

SS-22 L1533659-22 Solid

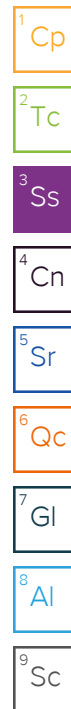
				Collected by Trevor Farrell	Collected date/time 09/06/22 17:00	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923661	1	09/10/22 10:14	09/10/22 10:29	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	1	09/10/22 09:43	09/10/22 17:41	TJD	Mt. Juliet, TN

SS-23 L1533659-23 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 17:15	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923661	1	09/10/22 10:14	09/10/22 10:29	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923836	1	09/10/22 09:43	09/10/22 16:40	TJD	Mt. Juliet, TN

SS-24 L1533659-24 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 17:20	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923663	1	09/10/22 09:59	09/10/22 10:12	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	1	09/10/22 09:47	09/10/22 18:02	NH	Mt. Juliet, TN



SAMPLE SUMMARY

SS-25 L1533659-25 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 17:25	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923663	1	09/10/22 09:59	09/10/22 10:12	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	1	09/10/22 09:47	09/10/22 17:49	NH	Mt. Juliet, TN

SS-26 L1533659-26 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 17:30	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923663	1	09/10/22 09:59	09/10/22 10:12	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	1	09/10/22 09:47	09/10/22 17:49	NH	Mt. Juliet, TN

SS-27 L1533659-27 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 17:45	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923663	1	09/10/22 09:59	09/10/22 10:12	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	1	09/10/22 09:47	09/10/22 17:12	NH	Mt. Juliet, TN

SS-28 L1533659-28 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 17:50	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923663	1	09/10/22 09:59	09/10/22 10:12	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	1	09/10/22 09:47	09/10/22 17:24	NH	Mt. Juliet, TN

SS-29 L1533659-29 Solid

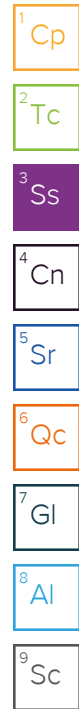
				Collected by Trevor Farrell	Collected date/time 09/06/22 19:20	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923663	1	09/10/22 09:59	09/10/22 10:12	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	400	09/10/22 09:47	09/12/22 18:51	TJD	Mt. Juliet, TN

SS-30 L1533659-30 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 19:25	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923663	1	09/10/22 09:59	09/10/22 10:12	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	100	09/10/22 09:47	09/12/22 18:51	TJD	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	50	09/10/22 09:47	09/10/22 20:13	NH	Mt. Juliet, TN

SP-1 L1533659-31 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 12:15	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923663	1	09/10/22 09:59	09/10/22 10:12	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	200	09/10/22 09:47	09/12/22 19:03	TJD	Mt. Juliet, TN



SAMPLE SUMMARY

SP-2 L1533659-32 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 12:30	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923663	1	09/10/22 09:59	09/10/22 10:12	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	100	09/10/22 09:47	09/10/22 19:11	NH	Mt. Juliet, TN

SP-3 L1533659-33 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 12:45	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923663	1	09/10/22 09:59	09/10/22 10:12	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	200	09/10/22 09:47	09/10/22 19:36	NH	Mt. Juliet, TN

SP-4 L1533659-34 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 18:10	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923664	1	09/10/22 09:45	09/10/22 09:56	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	1	09/10/22 09:47	09/10/22 17:37	NH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	2	09/10/22 09:47	09/12/22 19:03	TJD	Mt. Juliet, TN

SP-5 L1533659-35 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 18:20	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923664	1	09/10/22 09:45	09/10/22 09:56	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	200	09/10/22 09:47	09/12/22 19:16	TJD	Mt. Juliet, TN

SP-6 L1533659-36 Solid

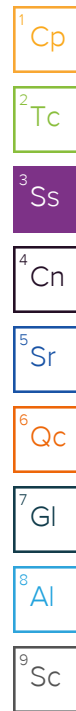
				Collected by Trevor Farrell	Collected date/time 09/06/22 18:22	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923664	1	09/10/22 09:45	09/10/22 09:56	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	20	09/10/22 09:47	09/10/22 19:48	NH	Mt. Juliet, TN

SP-7 L1533659-37 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 18:30	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923664	1	09/10/22 09:45	09/10/22 09:56	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	20	09/10/22 09:47	09/10/22 20:01	NH	Mt. Juliet, TN

SP-8 L1533659-38 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 18:35	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923664	1	09/10/22 09:45	09/10/22 09:56	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	100	09/10/22 09:47	09/12/22 19:16	TJD	Mt. Juliet, TN



SAMPLE SUMMARY

SP-9 L1533659-39 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 18:50	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923664	1	09/10/22 09:45	09/10/22 09:56	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	10	09/10/22 09:47	09/10/22 18:46	NH	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	20	09/10/22 09:47	09/12/22 19:28	TJD	Mt. Juliet, TN

SP-10 L1533659-40 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 18:55	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923664	1	09/10/22 09:45	09/10/22 09:56	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	10	09/10/22 09:47	09/12/22 19:28	TJD	Mt. Juliet, TN

SP-11 L1533659-41 Solid

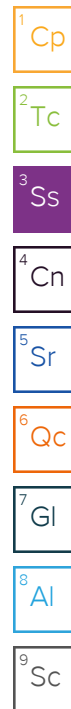
				Collected by Trevor Farrell	Collected date/time 09/06/22 18:57	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923664	1	09/10/22 09:45	09/10/22 09:56	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	10	09/10/22 09:47	09/10/22 18:34	NH	Mt. Juliet, TN

SP-12 L1533659-42 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 19:00	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923664	1	09/10/22 09:45	09/10/22 09:56	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	10	09/10/22 09:47	09/10/22 18:46	NH	Mt. Juliet, TN

SP-13 L1533659-43 Solid

				Collected by Trevor Farrell	Collected date/time 09/06/22 19:05	Received date/time 09/08/22 09:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1923664	1	09/10/22 09:45	09/10/22 09:56	CMK	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT	WG1923837	5	09/10/22 09:47	09/10/22 18:34	NH	Mt. Juliet, TN

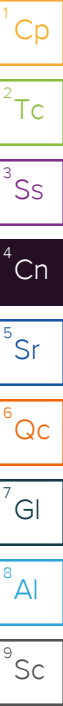


CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Brian Ford
Project Manager



Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.9		1	09/09/2022 14:54	WG1923660

1
Cp

2
Tc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	2930		105	25	09/12/2022 00:00	WG1923836
Residual Range Organics (RRO)	975		263	25	09/12/2022 00:00	WG1923836
(S) o-Terphenyl	0.000	J7	18.0-148		09/12/2022 00:00	WG1923836

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.9		1	09/09/2022 14:54	WG1923660

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	22200		421	100	09/12/2022 01:00	WG1923836
Residual Range Organics (RRO)	7220		1050	100	09/12/2022 01:00	WG1923836
(S) o-Terphenyl	0.000	J7	18.0-148		09/12/2022 01:00	WG1923836

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.4		1	09/09/2022 14:54	WG1923660

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	25800		452	100	09/10/2022 20:58	WG1923836
Residual Range Organics (RRO)	8320		1130	100	09/10/2022 20:58	WG1923836
(S) o-Terphenyl	0.000	J7	18.0-148		09/10/2022 20:58	WG1923836

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.5		1	09/09/2022 14:54	WG1923660

1
Cp

2
Tc

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	13500		210	50	09/12/2022 00:39	WG1923836
Residual Range Organics (RRO)	4330		524	50	09/12/2022 00:39	WG1923836
(S) o-Terphenyl	0.000	J7	18.0-148		09/12/2022 00:39	WG1923836

3
Ss

4
Cn

5
Sr

6
Qc

7
Gl

8
Al

9
Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	96.0		1	09/09/2022 14:54	WG1923660

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	3590		104	25	09/12/2022 02:46	WG1923836
Residual Range Organics (RRO)	1150		260	25	09/12/2022 02:46	WG1923836
(S) o-Terphenyl	0.000	J7	18.0-148		09/12/2022 02:46	WG1923836

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.6		1	09/09/2022 14:54	WG1923660

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	14500		209	50	09/12/2022 00:26	WG1923836
Residual Range Organics (RRO)	4310		523	50	09/12/2022 00:26	WG1923836
(S) o-Terphenyl	0.000	J7	18.0-148		09/12/2022 00:26	WG1923836

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	70.4		1	09/09/2022 14:54	WG1923660

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	4650		142	25	09/11/2022 23:47	WG1923836
Residual Range Organics (RRO)	1820		355	25	09/11/2022 23:47	WG1923836
(S) o-Terphenyl	0.000	J7	18.0-148		09/11/2022 23:47	WG1923836

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	75.7		1	09/09/2022 14:54	WG1923660

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	117		5.28	1	09/10/2022 15:30	WG1923836
Residual Range Organics (RRO)	37.3		13.2	1	09/10/2022 15:30	WG1923836
(S) o-Terphenyl	30.8		18.0-148		09/10/2022 15:30	WG1923836

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	75.0		1	09/09/2022 14:54	WG1923660

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	32.3		5.33	1	09/10/2022 15:43	WG1923836
Residual Range Organics (RRO)	ND		13.3	1	09/10/2022 15:43	WG1923836
(S) o-Terphenyl	46.3		18.0-148		09/10/2022 15:43	WG1923836

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	56.3		1	09/09/2022 14:54	WG1923660

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	13000		1770	250	09/12/2022 00:13	WG1923836
Residual Range Organics (RRO)	6090		4440	250	09/12/2022 00:13	WG1923836
(S) o-Terphenyl	0.000	J7	18.0-148		09/12/2022 00:13	WG1923836

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	70.8		1	09/10/2022 10:29	WG1923661

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	140		5.65	1	09/10/2022 16:01	WG1923836
Residual Range Organics (RRO)	50.0		14.1	1	09/10/2022 16:01	WG1923836
(S) o-Terphenyl	46.6		18.0-148		09/10/2022 16:01	WG1923836

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	79.8		1	09/10/2022 10:29	WG1923661

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	568		25.1	5	09/12/2022 02:33	WG1923836
Residual Range Organics (RRO)	381		62.7	5	09/12/2022 02:33	WG1923836
(S) o-Terphenyl	53.1		18.0-148		09/12/2022 02:33	WG1923836

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	68.6		1	09/10/2022 10:29	WG1923661

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	14.3		5.83	1	09/10/2022 17:20	WG1923836
Residual Range Organics (RRO)	ND		14.6	1	09/10/2022 17:20	WG1923836
(S) o-Terphenyl	51.8		18.0-148		09/10/2022 17:20	WG1923836

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	65.0		1	09/10/2022 10:29	WG1923661

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	826		30.8	5	09/12/2022 02:20	WG1923836
Residual Range Organics (RRO)	294		76.9	5	09/12/2022 02:20	WG1923836
(S) o-Terphenyl	54.7		18.0-148		09/12/2022 02:20	WG1923836

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	70.0		1	09/10/2022 10:29	WG1923661

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	4280		57.1	10	09/10/2022 20:32	WG1923836
Residual Range Organics (RRO)	1510		143	10	09/10/2022 20:32	WG1923836
(S) o-Terphenyl	0.000	J2	18.0-148		09/10/2022 20:32	WG1923836

Sample Narrative:

L1533659-18 WG1923836: Surrogate failure due to matrix interference

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	72.5		1	09/10/2022 10:29	WG1923661

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	204		5.52	1	09/10/2022 16:14	WG1923836
Residual Range Organics (RRO)	74.6		13.8	1	09/10/2022 16:14	WG1923836
(S) o-Terphenyl	32.8		18.0-148		09/10/2022 16:14	WG1923836

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	70.4		1	09/10/2022 10:29	WG1923661

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	11800		568	100	09/12/2022 02:07	WG1923836
Residual Range Organics (RRO)	3780		284	20	09/10/2022 21:24	WG1923836
(S) o-Terphenyl	0.000	J7	18.0-148		09/10/2022 21:24	WG1923836
(S) o-Terphenyl	0.000	J7	18.0-148		09/12/2022 02:07	WG1923836

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	68.5		1	09/10/2022 10:29	WG1923661

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	12.1		5.84	1	09/12/2022 01:42	WG1923836
Residual Range Organics (RRO)	ND		14.6	1	09/12/2022 01:42	WG1923836
(S) o-Terphenyl	47.6		18.0-148		09/12/2022 01:42	WG1923836

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	70.3		1	09/10/2022 10:29	WG1923661

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	347		5.69	1	09/10/2022 17:41	WG1923836
Residual Range Organics (RRO)	141		14.2	1	09/10/2022 17:41	WG1923836
(S) o-Terphenyl	24.0		18.0-148		09/10/2022 17:41	WG1923836

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	78.5		1	09/10/2022 10:29	WG1923661

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	21.9	J3	5.09	1	09/10/2022 16:40	WG1923836
Residual Range Organics (RRO)	ND		12.7	1	09/10/2022 16:40	WG1923836
(S) o-Terphenyl	47.7		18.0-148		09/10/2022 16:40	WG1923836

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	65.9		1	09/10/2022 10:12	WG1923663

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	81.7		6.07	1	09/10/2022 18:02	WG1923837
Residual Range Organics (RRO)	57.2		15.2	1	09/10/2022 18:02	WG1923837
(S) o-Terphenyl	26.0		18.0-148		09/10/2022 18:02	WG1923837

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	71.3		1	09/10/2022 10:12	WG1923663

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	12.6		5.61	1	09/10/2022 17:49	WG1923837
Residual Range Organics (RRO)	14.4		14.0	1	09/10/2022 17:49	WG1923837
(S) o-Terphenyl	36.7		18.0-148		09/10/2022 17:49	WG1923837

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	65.6		1	09/10/2022 10:12	WG1923663

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	227		6.09	1	09/10/2022 17:49	WG1923837
Residual Range Organics (RRO)	135		15.2	1	09/10/2022 17:49	WG1923837
(S) o-Terphenyl	59.5		18.0-148		09/10/2022 17:49	WG1923837

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	73.9		1	09/10/2022 10:12	WG1923663

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		5.42	1	09/10/2022 17:12	WG1923837
Residual Range Organics (RRO)	ND		13.5	1	09/10/2022 17:12	WG1923837
(S) o-Terphenyl	58.7		18.0-148		09/10/2022 17:12	WG1923837

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	65.7		1	09/10/2022 10:12	WG1923663

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	ND		6.08	1	09/10/2022 17:24	WG1923837
Residual Range Organics (RRO)	ND		15.2	1	09/10/2022 17:24	WG1923837
(S) o-Terphenyl	39.8		18.0-148		09/10/2022 17:24	WG1923837

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.8		1	09/10/2022 10:12	WG1923663

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	21500		1670	400	09/12/2022 18:51	WG1923837
Residual Range Organics (RRO)	6260		4180	400	09/12/2022 18:51	WG1923837
(S) o-Terphenyl	0.000	J7	18.0-148		09/12/2022 18:51	WG1923837

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	91.7		1	09/10/2022 10:12	WG1923663

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	19700		436	100	09/12/2022 18:51	WG1923837
Residual Range Organics (RRO)	7610		545	50	09/10/2022 20:13	WG1923837
(S) o-Terphenyl	0.000	J7	18.0-148		09/12/2022 18:51	WG1923837
(S) o-Terphenyl	0.000	J7	18.0-148		09/10/2022 20:13	WG1923837

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.9		1	09/10/2022 10:12	WG1923663

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	16800		843	200	09/12/2022 19:03	WG1923837
Residual Range Organics (RRO)	4560		2110	200	09/12/2022 19:03	WG1923837
(S) o-Terphenyl	0.000	J7	18.0-148		09/12/2022 19:03	WG1923837

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	95.4		1	09/10/2022 10:12	WG1923663

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	34500		419	100	09/10/2022 19:11	WG1923837
Residual Range Organics (RRO)	11700		1050	100	09/10/2022 19:11	WG1923837
(S) o-Terphenyl	0.000	J7	18.0-148		09/10/2022 19:11	WG1923837

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	94.7		1	09/10/2022 10:12	WG1923663

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	53500	V	845	200	09/10/2022 19:36	WG1923837
Residual Range Organics (RRO)	17600		2110	200	09/10/2022 19:36	WG1923837
(S) o-Terphenyl	0.000	J7	18.0-148		09/10/2022 19:36	WG1923837

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	67.0		1	09/10/2022 09:56	WG1923664

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	549		11.9	2	09/12/2022 19:03	WG1923837
Residual Range Organics (RRO)	175		14.9	1	09/10/2022 17:37	WG1923837
(S) o-Terphenyl	0.000	J2	18.0-148		09/10/2022 17:37	WG1923837
(S) o-Terphenyl	63.0		18.0-148		09/12/2022 19:03	WG1923837

Sample Narrative:

L1533659-34 WG1923837: Surrogate failure due to matrix interference

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	79.3		1	09/10/2022 09:56	WG1923664

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	11600		1010	200	09/12/2022 19:16	WG1923837
Residual Range Organics (RRO)	3470		2520	200	09/12/2022 19:16	WG1923837
(S) o-Terphenyl	0.000	J7	18.0-148		09/12/2022 19:16	WG1923837

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	57.8		1	09/10/2022 09:56	WG1923664

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	2660		138	20	09/10/2022 19:48	WG1923837
Residual Range Organics (RRO)	1120		346	20	09/10/2022 19:48	WG1923837
(S) o-Terphenyl	0.000	J7	18.0-148		09/10/2022 19:48	WG1923837

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	53.8		1	09/10/2022 09:56	WG1923664

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	4500		149	20	09/10/2022 20:01	WG1923837
Residual Range Organics (RRO)	1770		372	20	09/10/2022 20:01	WG1923837
(S) o-Terphenyl	0.000	J7	18.0-148		09/10/2022 20:01	WG1923837

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	65.3		1	09/10/2022 09:56	WG1923664

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	12700		613	100	09/12/2022 19:16	WG1923837
Residual Range Organics (RRO)	4760		1530	100	09/12/2022 19:16	WG1923837
(S) o-Terphenyl	0.000	J7	18.0-148		09/12/2022 19:16	WG1923837

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.7		1	09/10/2022 09:56	WG1923664

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	4480		95.6	20	09/12/2022 19:28	WG1923837
Residual Range Organics (RRO)	1430		119	10	09/10/2022 18:46	WG1923837
(S) o-Terphenyl	0.000	J2	18.0-148		09/10/2022 18:46	WG1923837
(S) o-Terphenyl	0.000	J7	18.0-148		09/12/2022 19:28	WG1923837

Sample Narrative:

L1533659-39 WG1923837: Surrogate failure due to matrix interference

1
Cp2
Tc3
Ss4
Cn5
Sr6
Qc7
Gl8
Al9
Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	85.9		1	09/10/2022 09:56	WG1923664

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1320		46.6	10	09/12/2022 19:28	WG1923837
Residual Range Organics (RRO)	428		116	10	09/12/2022 19:28	WG1923837
(S) o-Terphenyl	120		18.0-148		09/12/2022 19:28	WG1923837

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	57.5		1	09/10/2022 09:56	WG1923664

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1640		69.5	10	09/10/2022 18:34	WG1923837
Residual Range Organics (RRO)	907		174	10	09/10/2022 18:34	WG1923837
(S) o-Terphenyl	0.000	J2	18.0-148		09/10/2022 18:34	WG1923837

Sample Narrative:

L1533659-41 WG1923837: Surrogate failure due to matrix interference

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	65.1		1	09/10/2022 09:56	WG1923664

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1250		61.4	10	09/10/2022 18:46	WG1923837
Residual Range Organics (RRO)	781		154	10	09/10/2022 18:46	WG1923837
(S) o-Terphenyl	135		18.0-148		09/10/2022 18:46	WG1923837

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	49.2		1	09/10/2022 09:56	WG1923664

Semi-Volatile Organic Compounds (GC) by Method NWTPHDX-NO SGT

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Diesel Range Organics (DRO)	1180		40.6	5	09/10/2022 18:34	WG1923837
Residual Range Organics (RRO)	709		102	5	09/10/2022 18:34	WG1923837
(S) o-Terphenyl	163	J1	18.0-148		09/10/2022 18:34	WG1923837

Sample Narrative:

L1533659-43 WG1923837: Surrogate failure due to matrix interference

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3835759-1 09/09/22 14:54

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00100			

L1533659-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1533659-07 09/09/22 14:54 • (DUP) R3835759-3 09/09/22 14:54

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	70.4	72.2	1	2.53		10

Laboratory Control Sample (LCS)

(LCS) R3835759-2 09/09/22 14:54

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3835969-1 09/10/22 10:29

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00200			

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

L1533659-17 Original Sample (OS) • Duplicate (DUP)

(OS) L1533659-17 09/10/22 10:29 • (DUP) R3835969-3 09/10/22 10:29

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	65.0	62.2	1	4.35		10

Laboratory Control Sample (LCS)

(LCS) R3835969-2 09/10/22 10:29

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

Method Blank (MB)

(MB) R3835967-1 09/10/22 10:12

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.00200			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1533659-27 Original Sample (OS) • Duplicate (DUP)

(OS) L1533659-27 09/10/22 10:12 • (DUP) R3835967-3 09/10/22 10:12

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	73.9	74.4	1	0.713		10

Laboratory Control Sample (LCS)

(LCS) R3835967-2 09/10/22 10:12

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	99.9	85.0-115	

⁷Gl

⁸Al

⁹Sc

Method Blank (MB)

(MB) R3835963-1 09/10/22 09:56

	MB Result	<u>MB Qualifier</u>	MB MDL	MB RDL
Analyte	%		%	%
Total Solids	0.000			

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

L1533659-37 Original Sample (OS) • Duplicate (DUP)

(OS) L1533659-37 09/10/22 09:56 • (DUP) R3835963-3 09/10/22 09:56

	Original Result	DUP Result	Dilution	DUP RPD	<u>DUP Qualifier</u>	DUP RPD Limits
Analyte	%	%		%		%
Total Solids	53.8	52.1	1	3.21		10

⁷Gl

⁸Al

Laboratory Control Sample (LCS)

(LCS) R3835963-2 09/10/22 09:56

	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	<u>LCS Qualifier</u>
Analyte	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

⁹Sc

Method Blank (MB)

(MB) R3835916-1 09/10/22 14:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	74.6			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3835916-2 09/10/22 15:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	37.0	74.0	50.0-150	
(S) o-Terphenyl			85.6	18.0-148	

L1533659-23 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1533659-23 09/10/22 16:40 • (MS) R3835916-3 09/10/22 16:53 • (MSD) R3835916-4 09/10/22 17:06

Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	63.7	21.9	69.5	89.5	74.8	106	1	50.0-150		J3	25.1	20
(S) o-Terphenyl					58.1	61.7		18.0-148				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) R3835962-1 09/10/22 17:12				
Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Diesel Range Organics (DRO)	U		1.33	4.00
Residual Range Organics (RRO)	U		3.33	10.0
(S) o-Terphenyl	79.9			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3835962-2 09/10/22 17:24					
Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
Diesel Range Organics (DRO)	50.0	38.5	77.0	50.0-150	
(S) o-Terphenyl			74.6	18.0-148	

L1533659-33 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1533659-33 09/10/22 19:36 • (MS) R3835962-3 09/10/22 19:48 • (MSD) R3835962-4 09/10/22 20:01												
Analyte	Spike Amount (dry) mg/kg	Original Result (dry) mg/kg	MS Result (dry) mg/kg	MSD Result (dry) mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Diesel Range Organics (DRO)	47.8	53500	50200	45300	0.000	0.000	200	50.0-150	V	V	9.54	20
(S) o-Terphenyl					0.000	0.000		18.0-148	J7	J7		

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

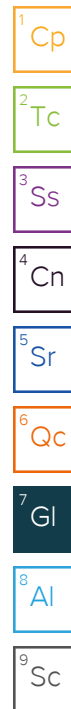
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
V	The sample concentration is too high to evaluate accurate spike recoveries.



ACCREDITATIONS & LOCATIONS

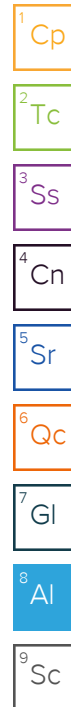
Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1 6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1 4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA -- ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Company Name/Address:

Terracon
700 NE 55th Ave
Portland, OR

Billing Information:

Accounts Payable
700 NE 55th Ave

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 1 of 5



12065 Lebanon Rd Mount Juliet, TN 37122
Phone: 615-758-5858 Alt: 800-767-5859

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

SDG # L1533659

D182

Acctnum:

Template:

Prelogin:

PM:

PB:

Shipped Via:

Remarks Sample # (lab only)

Report to:

trevor.farrell@terracon.com

Email To:

Rch.Rodriguez@terracon.com

Project Description:

Kalama Spill

City/State

Collected: WA

Please Circle:

PT MT CT ET

Phone:

503-659-3281

Client Project #

82227198

Lab Project #

Collected by (print):

Trevor Farrell

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

Same Day Five Day
Next Day 5 Day (Rad Only)
☒ Two Day 10 Day (Rad Only)
Three Day

Quote #

Date Results Needed

Immediately

Packed on Ice N Y ☒

No.
of
Cntrs

Sample ID

Comp/Grab

Matrix*

Depth

Date

Time

SS-1	G	SS	1.0	9/6	11:15	2	X
SS-2					11:40	2	
SS-3					11:45	2	
SS-4					12:00	2	
SS-5					12:10	2	
SS-6					12:50	2	
SS-7					14:05	2	
SS-8					14:50	2	
SS-9					500	2	
SS-10					1508	2	

NWTPH-05X

* Matrix:

SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

Samples returned via:

UPS FedEx Courier

Tracking #

pH Temp

Flow Other

Sample Receipt Checklist

COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by: (Signature)

[Signature]

Date:

9/7/22

Time:

15:00

Received by: (Signature)

[Signature]

Trip Blank Received: Yes/No

3 HCL / MeOH
TBR

Temp: °C Bottles Received:

67

If preservation required by Login: Date/Time

Relinquished by: (Signature)

[Signature]

Date:

Time:

Received for lab by: (Signature)

[Signature]

Date: Time:

09-08-22 0900

Hold:

Condition:

NCF / OK

Company Name/Address:

Terracon.
700 NE 55th Ave
Portland, OR 97213

Billing Information:

Accounts Payable
700 NE 55th Ave
Portland

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 4 of 5

Pace
PEOPLE ADVANCING SCIENCE

12065 Lebanon Rd Mount Juliet, TN 37122
Phone: 615-758-5858 Alt: 800-767-5859

Submitting a sample via this chain of custody
constitutes acknowledgment and acceptance
of the Pace Terms and Conditions found at:
<https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

SDG # 1533659

Table #

Acctnum:

Template:

Pregoin:

PM:

PB:

Shipped Via:

Remarks Sample # (lab only)

Report to:

Trevor.Farrell@terracon.com

Email To:

trevor.farrell@terracon.com

Project Description:

Kalamia Spill

City/State

Collected: WA

Please Circle:

PT MT CT ET

Phone:

503-659-3281

Client Project #

82227198

Lab Project #

Collected by (print):

Trevor Farrell

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

☐ Same Day ☐ Five Day
☐ Next Day ☐ 5 Day (Rad Only)
☒ Two Day ☐ 10 Day (Rad Only)
☐ Three Day

Quote #

Date Results Needed

No.
of
Cntrs

Immediately

Packed on Ice N ☐ Y ☒

Sample ID

Comp/Grab

Matrix*

Depth

Date

Time

SP-1

Comp

SS

N/A

9/6

12:15

1

SP-2

12:30

1

SP-3

12:45

1

SP-4

18:20

1

SP-5

18:20

1

SP-6

18:22

1

SP-7

18:30

1

SP-8

18:35

1

SP-9

18:50

1

SP-10

18:55

1

* Matrix:

SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

Samples returned via:

☐ UPS ☐ FedEx ☐ Courier

Tracking #

pH Temp

Flow Other

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☐ N
COC Signed/Accurate: ☒ Y ☐ N
Bottles arrive intact: ☒ Y ☐ N
Correct bottles used: ☒ Y ☐ N
Sufficient volume sent: ☒ Y ☐ N
If Applicable
VOA Zero Headspace: ☒ Y ☐ N
Preservation Correct/Checked: ☒ Y ☐ N
RAD Screen <0.5 mR/hr: ☒ Y ☐ N

Relinquished by: (Signature)

Date:

9/7/22

Time:

17:00

Received by: (Signature)

Trip Blank Received: Yes / No

HCL / MeOH
TBR

Temp: °C Bottles Received:

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Date: Time:

09-08-22 0900

Hold:

Condition:
NCF / OK

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

D. Ramdell

Company Name/Address:

Terracon
700 NE 55th Ave
Portland, OR

Billing Information:

Accounts Payable
700 NE 55th Ave
Portland, OR

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page 5 of 5



12065 Lebanon Rd Mount Juliet, TN 37122
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Report to:

trevor.farrell@terracon.com

Email To:

Rich.Rodriguez@terracon.com

Project Description:

City/State
Collected:

Please Circle:
PT MT CT ET

Phone:

503-659-3281

Client Project #

82227198

Lab Project #

Collected by (print):

Trevor Farrell

Site/Facility ID #

P.O. #

Collected by (signature):

Rush? (Lab MUST Be Notified)

___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
☒ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Immediately

Packed on Ice N ___ Y ☒

No.
of
Cntrs

Sample ID

Comp/Grab

Matrix*

Depth

Date

Time

SP-11

Comp

SS

N/A

9/6

18:57

SP-12

↓

↓

↓

↓

19:00

SP-13

↓

↓

↓

↓

19:05

NWTPM-DX

* Matrix:

SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other

Remarks:

Samples returned via:

___ UPS ___ FedEx ___ Courier

Tracking #

pH ___ Temp ___

Flow ___ Other ___

Sample Receipt Checklist

COC Seal Present/Intact: NP ☒ Y ☒ N
COC Signed/Accurate: ☒ Y ☒ N
Bottles arrive intact: ☒ Y ☒ N
Correct bottles used: ☒ Y ☒ N
Sufficient volume sent: ☒ Y ☒ N
If Applicable
VOA Zero Headspace: ☒ Y ☒ N
Preservation Correct/Checked: ☒ Y ☒ N
RAD Screen <0.5 mR/hr: ☒ Y ☒ N

Relinquished by : (Signature)

Date:

9/1/22

Time:

17:00

Received by: (Signature)

Trip Blank Received: Yes / No

HCL / MeOH
TBR

Relinquished by : (Signature)

Date:

Time:

Received by: (Signature)

Temp: °C Bottles Received:

If preservation required by Login: Date/Time

Relinquished by : (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: 09-08-22 Time: 0900

Hold: Condition: NCF / OK

<u>Tracking Numbers</u>		<u>Temperature</u>
5882 7553 8003	NSA6	2.7 + 0 = 2.7
5882 7553 8014		1.2 + 0 = 1.2